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THE CANADIAN PRACTITIONER

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PUBLISHERS:

THE BRYANT PRESS, 20 BAY STREET.

Vol. XXI.]

FEBRUARY, 1896.

[No. 2

Original Communications.

PUERPERAL ECLAMPSIA.*

BY H. CRAWFORD SCADDING, M.D., C.M.,
TORONTO, ONT.

THE notes of two cases of post-partum puerperal eclampsia form the subject of a few remarks which I desire to make this evening.

CASE I. Mrs. E., aged twenty-three years; confined on January 23, 1895. A small growth upon the roof of the mouth had been removed under chloroform in the fifth month of pregnancy. At the time of confinement her general appearance was remarkably anæmic. The delivery was accomplished quite naturally; no post-partum hæmorrhage. About an hour and a half after the expulsion of the placenta she was seized with a severe fit. Unfortunately, I did not observe the seizure, having left the house some few minutes, but, upon returning immediately, found her quiet and hardly conscious; pupils dilated, but conjunctival reflex present. A hypodermic injection of morphia, three-eighths of a grain, was at once given, and, later, one-quarter grain doses of calomel every half hour until

* Read before the Toronto Medical Society, Thursday, January 30, 1896.

the bowels moved. There was no return of the fit. Magnesium sulphate and iron were ordered; a strict milk diet was prescribed, no butcher's meat being allowed for some weeks after delivery. Examination of the urine about the fifth month revealed no albumen, but the following was the report subsequent to the confinement:

Clinical urinary examination. Mrs. E., January 24, 1895; amber color; acid reaction; specific gravity, 1021; color of sediment, gray; quantity of sediment, moderate; albumen, about half by volume; some mucus; squamous epithelium; blood cells abundant; hyaline casts.

The albumen very gradually disappeared under appropriate treatment, diet, etc., until October 1, 1895, when the urine was found to be quite normal, and the pallid, swollen countenance had given place to a healthy color and appearance.

CASE 2. Mrs. M., confined November 3, 1895, had had persistent and distressing vomiting early in the pregnancy, which was finally relieved by stretching the cervix and applying nitrate of silver (twenty grains to the ounce). The urine examined early in April showed no trace of albumen. Labor lasted seven or eight hours, severe vomiting occurring while the cervix was beginning to dilate. Chloroform was given to the obstetrical extent during the latter part of the second stage. Before the placenta was expelled, and about fifteen minutes after the birth of the child, the patient complained of severe headache, and almost immediately there began twitching of the left side of the face, the head being turned to the left, and a general convulsion following, first tonic and then clonic muscular contractions, with deep cyanosis of the face. The placenta was not spontaneously expelled. There was slight return to consciousness after the first fit, and complaint of headache repeated. The afterbirth was then expressed. A second and a third convulsion followed within thirty minutes, the last being more severe than the first or second; consciousness not returning between the second and third, and not until about two and a half hours after the third. While attention was given to the administration of morphia, etc., and attempts made to chloroform before the onset of the second and third seizures, the uterus was neglected, and some time after the third fit it was noticed that this organ was much distended with blood and clots, which were expressed, and the uterus remained well contracted thereafter. One-half grain of morphia was given by rectum when the seizure recurred. One-quarter of a grain hypodermatically and a quarter of a grain by the mouth when consciousness returned after the third seizure, and a quarter of a grain in about three hours following this; so that one and a quarter grains were given within the six hours following delivery, one-half grain of which was given by the rectum. The pupils were much dilated, and the conjunctival reflex was

absent for some time after the second and third seizures. Eight ounces of urine drawn by catheter immediately after the third fit contained a small quantity of albumen (about one-tenth per cent. approximately), and the following are the reports subsequently :

Clinical urinary examination. Specimen No. 1. Passed eight hours after labor ; color, light clear yellow ; reaction, markedly acid ; specific gravity, 1010 ; color and quantity of sediment, grayish red, moderate ; albumen, about one-tenth per cent. ; urea, five and a quarter grains to ounce ; amorph. urates present ; mucus and pus, some mucus and a few pus cells ; epithelium, squamous and débris ; blood, numerous cells ; casts, not found.

Specimen No. 2. Passed thirty-four hours after labor ; color, clear amber ; reaction, markedly acid ; specific gravity, 1020 ; color and quantity of sediment, pink, abundant ; albumen, absent ; urea, eight and a half grains to ounce ; amorph. urates, very abundant ; mucus and pus, some mucus and scattered pus cells ; epithelium, squamous and débris ; blood, absent ; casts, not found.

It would have been a satisfaction in both cases had the urine been examined just before labor.

I have asked myself the following questions :

1. Is the failure of the kidney to perform elimination the sole cause of eclamptic seizure?
2. What rôle does the liver play in the production of eclampsia?
3. May the condition of the blood be the cause?
4. Is there another function of the kidney the impairment of which leads to eclampsia.
5. Is the increase of blood pressure the primary cause?

(1) I have concluded that in one class of cases the impoverished condition of the blood is the cause, and in the other class increase of blood pressure is the primary etiological factor in the causation of eclampsia. The convulsions are commonly called uræmic, but it was proved as long ago as 1860, by Richter, that the injection of a saturated solution of urea in animals produced no convulsions at all. Brown-Séquard and D'Arsonval found that normal urine filtered and rendered sterile under high pressure by carbonic acid could be injected with impunity into the veins of animals. The largest injection which it was possible to give without noticeable effect was 110 grammes per kilogramme of the animal, an exceedingly large amount, when, according to Bouchard, ninety grammes of water per kilogramme begins to produce noticeable effect, and 122 grammes causes death. The slowness of injection (one or two hours) in these experiments permitted, by an abundant diuresis, the rapid evacuation of urinary principles considered as toxic.

(2) Massin declares that carbon-dioxide is the special poison giving rise to eclampsia ; that the injection of CO_2 causes in animals symptoms comparable to those of eclampsia ; that carbon-dioxide results from impaired liver function, whereby nitrogenous substances are incompletely oxidized. But, further, though enormous quantities of incompletely oxidized substances circulate in the blood towards the end of gestation, eclampsia will not be produced unless the psychical equilibrium is disturbed. The nitrogenous end-products of the liver are urea and urates, and when the latter are excreted by the kidney in great abundance, and the former in greatly lessened quantity, a disturbance of the liver is indicated. Three-quarters of the blood of the liver is venous. Is it possible that the chief function of this organ is the oxidation of nitrogenous substances? If eclampsia were due to CO_2 , why would it not occur more frequently, and in such cases as asthma and advanced phthisis?

(3) Traube's theory that the tenuity of the blood may be productive of convulsions is interesting. He held that the watery condition of the blood predisposes to interstitial transudations—that the hypertrophy of the left ventricle much increases the lateral pressure in the arterial system, and serous transudation takes place through the cerebral capillaries and gives rise to œdema of the brain. This œdema causes compression of the minute cerebral vessels and determines an anæmic state of the brain, and thereby convulsions when the central ganglia are affected.

(4) It is known that other glands of the body have an internal secretion ; that such secretion by the pancreas prevents a form of diabetes ; that the internal secretion of the thyroid controls the deposition of mucin in the tissues. Is it not possible, nay, even probable, that the kidney secretes something that guards the nervous system against the attack of some toxic substance which is secreted by a healthy kidney? Brown-Séquard and D'Arsonval,* working separately, found that after extirpation of the kidney in guinea pigs and rabbits, those that were subjected to injections of kidney juice (extracted from the parenchyma of the kidney) survived two or more days longer than those which had received no injection ; and, furthermore, that uræmic symptoms were slower to manifest themselves in those animals that had received the injection. Meyer† proposed the grafting of kidney substance where the internal secreting function was impaired and destroyed. He said this experiment had been tried and proved successful. Fowler, in the *Medical Record* for May 13, 1893, draws attention to a work entitled "Suppression of Urine," wherein is contained the description and analyses of ninety-three cases of anuria, varying in duration from three to sixty days, necropsies being made in more than half the number. Of the ninety-three, only nineteen presented

*Comptes rendus de l'vend. des Sciences, 1892, term 114, p. 490.

†Archives de Physiol., vol. v., page 76r.

uræmic symptoms, and three of these only after the flow of water had been fully re-established. Recovery followed after anuria lasting twenty-one, twenty-five, and twenty-eight days. These cases probably fall into the third class of Brown-Séguard*, the first being those in which the internal and external secretion is absent. The second internal secretion is impaired, and the external existing, though less complete. In the third the external alone is wanting, and the internal persisting entirely. Brown-Séguard arrives at the following conclusions:

(1) The consideration of cases of anuria of long duration without morbid manifestations, and of cases of disappearance of symptoms after nephrectomy under the influence of kidney juice injections, shows that the kidney possesses a most important internal secretion.

(4) The comparative study of anuria and uræmia in cases observed by D'Arsonval, Brown-Séguard, and confirmed by Meyer, renders it extremely probable that the phenomena of uræmia are due chiefly to the absence of internal secretion, and not, as one might suppose, to the alteration of the urinary secretions and the consecutive accumulation of certain toxic principles in the blood.

(3) Dr. Utley, in the *American Journal of Obstetrics* for September, 1895, says: "On the basis that the efforts of a parturient woman are conducive to a correspondingly increased general blood pressure—which efforts are, of course, greatest during the second stage—and with a view to studying the relation of heightened blood pressure to the presence of albumen in the urine, I have, in twenty-four women, examined a specimen of urine obtained just at the beginning of labor, one at the end of the first stage, and one at the conclusion of labor. In sixty per cent. of those whose urine showed not a trace of albumen before labor, or in some instances at the end of the first stage, I found it to be present after labor in greater or less amount, depending on the length of the second stage. These albuminurias are, of course, transient, disappearing in two to four hours. In those in which none was found the labor was accomplished with a minimum degree of effort. Then, again, in eight cases in which urine was albuminous before labor, without explanatory organic kidney lesion, and possibly due to high blood pressure, the amount of albumen was found to be increased after the completion of the labor, the increase being relative also to the length and severity of the second stage. In a few hours the albumen had entirely disappeared, the conditions favoring high blood pressure having been removed."

CASE I. While, in this case, the mechanical interference with the venous circulation may have been a factor in the production of the disorder of the kidney, there are some valid objections to this as the cause of albuminuria. There was marked anæmia. The amount of albumen was

*Archives de Physiol., vol. v., p. 778.

very large. There was œdema of the face and legs. There was no particular difficulty in the second stage. These facts incline me to the belief that there existed, for some time previous to the labor, abundant excretion of albumen and diminished excretion of urea, and probably kidney lesion, due to the impoverished blood condition commonly associated with gestation.

CASE 2. There was apparent perfect health for some weeks before labor. There was very slight œdema of the feet—not more than could readily be accounted for by the slight obstruction to the return venous blood. There was a very slight amount of albumen in the urine by catheter directly after labor. It is probable that, in all cases of normal labor, if the second stage is accompanied by other than the minimum degree of effort, albumen will be found in the urine directly after labor, but will disappear a few hours thereafter. The consideration of these circumstances leads me to think that the kidney function was not impaired up to the time of commencement of labor.

While in Case 1 I believe the impairment of kidney function was due to an impoverished condition of the blood, in Case 2 I believe it to have been disturbed by acute congestion of the kidney. Though morphia was given in both cases, I am not satisfied that the good results were due to its influence. In the first case the bowels were moved very freely and very soon, and the kidney function responded promptly, calomel, magnesium sulphate, iron, and large draughts of soda water being administered. In the second case a large amount of blood was lost, which, I am inclined to think, was largely instrumental in bringing about a happy termination of speedy recovery.

Is it not possible, in such cases, that the increased blood pressure, even during the second stage of labor, may so cripple the internal secretion of the kidney that the barrier which protects the nervous system falls, and the citadel is stormed, and sometimes taken, by an invading army of toxins? Assuming that eclampsia is due to an impairment of the internal secretion of the kidney, and that such a condition may be produced by opposite causes, anæmia and acute congestion, our treatment would naturally be, on the one hand, to improve the condition of the blood, while we endeavor to carry off by the skin, by the bowels, and external secretion of the kidney, the principles of the urine which are only toxic when the internal secretion is in abeyance. On the other hand, will not the lancet, or veratrum viride, restore the internal secretion by relieving a congested kidney? In conclusion, may I venture to suggest, as a prophylactic measure against eclampsia in the pregnant, where kidney disease is known to exist—as a temporizing measure while labor is being artificially produced, eclampsia having threatened or appeared, as a substitute for the disabled internal kidney secretion in intra- and post partum eclampsia—the injection of a suitable extract of the kidney of the sheep?

A CASE OF BRONCHIECTASIS.*

BY F. N. G. STARR, M.B. (TOR.),

Senior Assistant Demonstrator of Anatomy, Toronto University; Assistant Surgeon, Victoria Hospital
for Sick Children.

MR. PRESIDENT AND GENTLEMEN,—The patient, a female, aged twenty-four years, from a western town, came under my observation on June 20, 1895. She complained of cough and expectoration, both of which were worse in the morning.

Six years ago she had an illness which was called typhoid fever. More than five years ago—in fact, during convalescence from the fever—the cough commenced. In the winter of 1893-94 she had influenza; in addition to these, the patient has had several attacks of “congestion of the lungs.”

There is no pain unless she takes cold, and then it is worse in the left infra-clavicular region. There is no wasting; in fact, she is rather fleshy than otherwise, though her color is pasty. The fingers are markedly clubbed. Then, as to the cough of which she complained: commencing some time before she rises, and lasting until nearly noon, she coughs more or less continuously, and every little while she will evacuate large quantities of material which is very offensive. During my conversation with her she gave a little hacking cough, and evacuated a muco-purulent material to the extent of about half a cupful. This was horribly offensive, and flowed from the mouth with little or no effort. She tells me that sometimes she vomits as a result of the “stinking taste” in her mouth after one of these attacks.

Upon examination of the chest I found impaired resonance over the front of the right side, as far down as the fourth interspace. There was divided breathing, and an occasional sibilant rhoncus. On the left side there was divided breathing. The apex beat was displaced perhaps half an inch outward. Behind, on both sides, from about the level of the fifth rib downward, there was what might be called subcrepitant râles. The inspiration was high-pitched, but the breathing was not bronchial in

* Read before Toronto Medical Society.

character. On the right side, from the seventh interspace downward, there was absolute flatness, which became continuous with the liver dullness. Opposite the ninth dorsal spine, and close to the vertebral column, there was loud, cavernous breathing. The area over which this could be heard was not larger, I think, than a half-dollar, but it was very marked.

On the left side, from the seventh space downward, there was dullness on percussion, and the breathing was somewhat bronchial in character. (Fig. 1.)

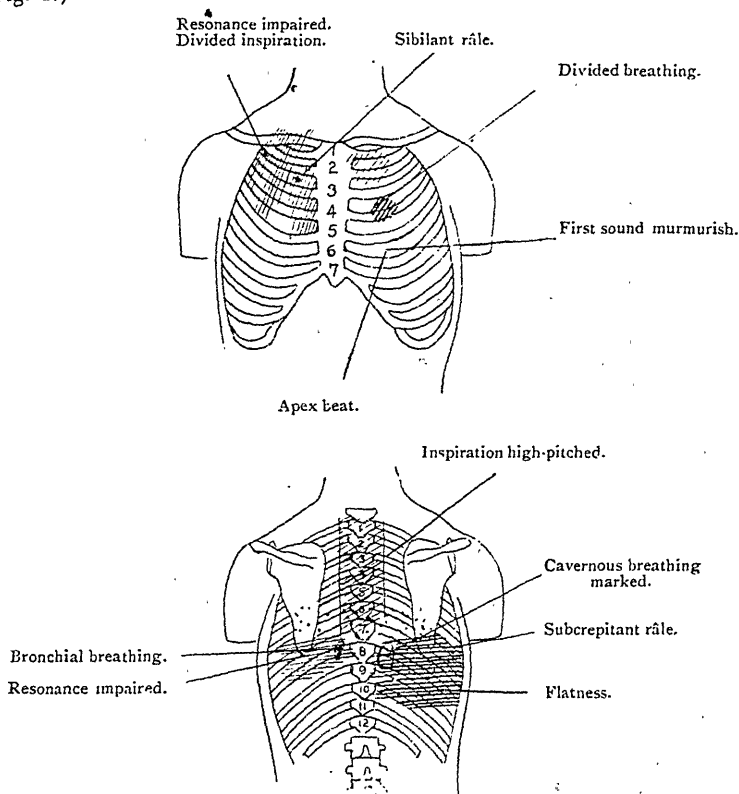


FIG. 1.

In September I had the patient admitted to the General Hospital, under the care of Dr. McPhedran. The area over which the cavernous breathing could be heard had increased (see Fig. 2), and on September 30 the chest was aspirated, as indicated in Fig. 2. No fluid could be discovered, but the needle seemed to be in a cavity, for the point would move freely, and, upon passing it in more deeply, it would seem to catch

upon a rough surface when attempts at movement were made. The following day no cavernous or, in fact, any other kind of breathing could be heard over the affected area. She had expectorated but little since the preceding day. The cavity was probably filled, and would allow no air to enter.

On October 2, Dr. Cameron made a vertical incision (see Fig. 3) over the tenth and eleventh ribs and their spaces, three inches to the right of the vertebral spines. The incision was made low down, lest the condition should prove to be an empyema, for then one could get free drainage. The intercostal muscles were very thin, and the finger passed through the tenth space without difficulty. With the finger directed downward, one could feel the diaphragm with the liver below it; directed upward, one could feel the lung perfectly free in the pleural cavity. There were adhesions between the middle and lower lobes. The lung had retracted

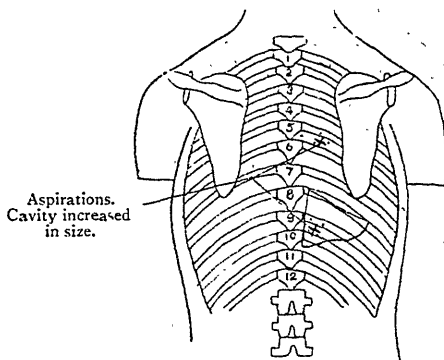


FIG. 2.

considerably, probably owing to the greater air pressure from without. The parietal pleura was not even thickened at the point entered; perhaps the visceral was. Just below the fissure there appeared to be a consolidated area, but no cavity could be felt with the finger, or discovered by two attempts with the aspirating needle in the lung tissue.

This was certainly disappointing, for it was thought that an exploration would clear up all doubt, whereas it only seemed to increase the already difficult puzzle.

The patient made a perfectly good recovery from the operation, but got no relief from her symptoms.

On October 31 an incision, one inch in length, was made over the ninth space, posteriorly, three or four inches from the median line, and an aspirating needle passed into the lung tissue. When directed downward, forward, and inward, it seemed to enter a cavity; air escaped through the cannula, while one could move it freely up and down and from side

to side, the point seeming to be unobstructed. Upon inserting the cannula still further the point seemed, upon movement, to catch upon a rough, uneven surface. No fluid escaped through the needle. An examination of the contents of the needle, microscopically, revealed only blood cells.

The condition certainly was not a localized empyema, neither was it a tubercular cavity originating in the base of the lung; for repeated examinations of the sputa revealed no bacilli. Was it not, then, likely to be a greatly diseased bronchus, or even several smaller bronchi connected with a larger one, with some consolidated tissue around them, causing the ready transmission of the cavernous note to the surface. It is said that in bronchiectasis the lung tissue between the affected tubes is not consolidated.

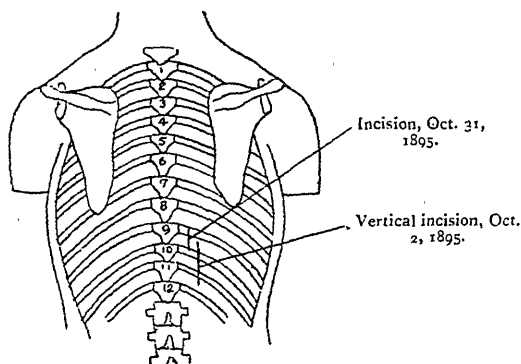


FIG. 3.

If a dilated bronchus, was it cylindrical or saccular? It would seem to me more likely the latter, owing to the fact that the cavity was sometimes so completely filled with muco-purulent material that no air could enter.

It was a question as to whether it would not be good treatment to bring the parietal and visceral pleura together, and at a subsequent operation open into the cavity and allow it to drain. It was thought advisable to try some other means first, and she was sent home, with instructions that when the cough commenced she should try the knee-chest position, and thus endeavor to facilitate the evacuation of the cavity. In addition to this she is taking creasote and cod-liver oil, and is using inhalations of oil of peppermint, with a view to overcome the offensive character of the contents of the cavity.

A CASE OF EPILEPTIC MELANCHOLIA—FOREIGN BODIES FOUND IN HEART AND LUNG AT POST-MORTEM.

By J. M. FORSTER, M.D.,
Assistant Superintendent Rockwood Hospital,
KINGSTON, ONT.

I W., æt. 32, married, laborer's wife, of active habits. She had several attacks of insanity for four years previous to her admission. Her mother and grandmother were insane, the latter was also subject to epileptic seizures. Her insanity was due to epilepsy. This came on after the birth of her one and only child. Before her admission she made several attempts on her own life, on one of these occasions opening two large veins in her arm with a piece of broken bottle and a pair of scissors.

Admitted to Rockwood Hospital, August 23, 1889. She came under my notice in November, 1894. For information before this date I am indebted to the medical superintendent and nurses in charge.

This patient was the victim of the most desperate of suicidal impulses. When she was under this impulse she used to say that "she would be better off out of this world, and that no one cared for her." At times she was pretty well, and occupied her time in sewing or knitting. During such periods her epileptic seizures would recur regularly, mostly at night. Then she would go for a few days without having a fit, when her mind would again become affected. She was then sullen and irritable, threw things about, and was in a constant state of unrest. She refused to speak, and if spoken to or interfered with she became very violent, viciously attacking the nurses. This was the signal for the closest watchfulness over her day and night to avert her committing suicide.

As soon as a fit occurred she would be relieved of all these symptoms. This is quite unusual in my experience, though not uncommon. According to Gowers, "it is common for patients to say that they feel better when they are having fits than when they are not."

D. Hack Tuke writes: "Occasionally a fit seems to act as a nerve storm to clear the mental atmosphere."

Her whole history while here was one of suicidal attempts, which were shown by the scars on her arms and forearms. I shall quote two of the most noteworthy.

June 17, 1893, at 9 p.m., she was discovered with the bedclothes drawn up closely around her neck. Upon removing these she was found to be lying almost in a pool of blood. She had opened a large vein in her arm by repeatedly picking it with a needle or pin. She was quite faint from the loss of blood. Her recovery was very slow and gradual. She remained for more than a week confined to her bed, and is described by the nurse as looking for days almost lifeless. (This is the only occasion on which her recovery was delayed or tedious, and it seems to me the most probable one for her inserting the needles found in her lung and heart afterwards at the post-mortem.) Every kind of search was made for the weapon with which she did this, but it could not be then found.

June 10, 1894. She was so violently excited this morning that she had to be left in her room. The head nurse left her to go to breakfast, warning her assistant to carefully watch I.W. She was called away to answer the door-bell. In a moment the patient had barricaded her door by placing her bed against it. This was soon shoved open, and when the nurse entered she discovered her patient lying peacefully in bed with her hands folded on her breast. A large cut had been made into her wrist, an opening made in a vein at the elbow of the left arm with a piece of glass, and a darning needle was sticking into her chest in the third or fourth intercostal space to the left of the sternum. This needle was three or four inches long, and about an inch of the eye portion remained outside of the chest. This was pulled out and other wounds dressed.

She was in a very weak condition from loss of blood, being almost pulseless. Stimulants soon revived her, and her recovery was rapid. No other marks on her chest at this time.

Jan. 17, 1895. Attempted to strangle herself.

May 28, 1895. She was trephined by Dr. Webster, who removed a portion of the brain convolution, corresponding to the nervous supply of part of local origin of convulsions.

June 10, 1895. She made an excellent recovery from the operation, and came under my charge again to-day.

Nov. 7, 1895. She has been failing bodily for the last month, and has well-marked symptoms of phthisis.

Her sputum showed the tubercle bacilli shortly afterwards when a specimen could be obtained.

There was nothing eventful in her subsequent history. She was greatly relieved of her distressing mental symptoms by the operation. The phthisis ran a somewhat rapid course, and she died January 10, 1896, from this.

Post-mortem. I. W., died 3.30 a.m., and the post-mortem was made 2.30 p.m., eleven hours after death.

Heart. In the pericardial sac there was an excessive amount of

serous fluid, four or five ounces, but no pericardial adhesions. The heart weighed nine ounces. The auricles were distended with both ante-mortem and post-mortem clots. Upon removing these from the left auricle something sharp was felt near its appendix, which proved to be a needle.

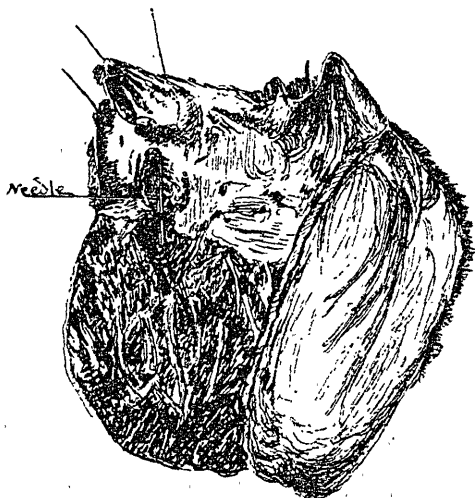


FIG. 1.—Heart ; the left ventricle and auricle opened.

On exposing this, by cutting down on it, it was found embedded in the wall of the left ventricle, close to the anterior interventricular groove or septum. The needle pointed upwards, leaving the left ventricular wall just anterior to the aortic valve. Then it penetrated the wall of the left auricle at the margin of the appendix auriculæ. The pointed portion of the needle then extended across the opening into the appendix.

The point was just touching the opposite wall of the auricle, where a little papilla of vegetations was set up by the irritation of the point of needle. This papilla was one-quarter of an inch long, and, at its base, about three-sixteenths of an inch in diameter. It is shown in the photograph just to the left of the point of needle. In the ventricle the needle penetrated the heart muscle immediately behind the coronary artery on its way to the anterior interventricular groove, three-quarters of an inch from the origin of this artery. The needle was firmly embedded in the tissue, so that it could not be pulled out without using considerable force.

The needle was one and five-eighths of an inch long, and distributed thus : Five-eighths in the ventricular wall, three-eighths in the auricular wall, and five-eighths free in the cavity of the left auricle. It was black in color, and its surface quite smooth.

Nothing abnormal about the other parts of the heart.

Lungs. The left pleura was firmly adherent throughout. The superior lobe of left lung was a mass of tubercular nodules and some small cavities. The inferior lobe presented another feature of interest in the presence of a broken knitting needle.

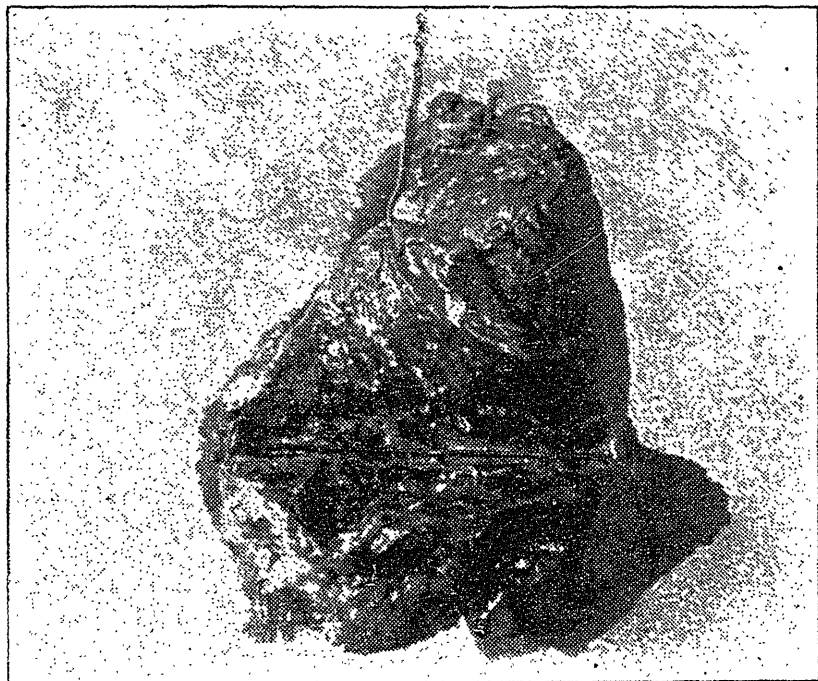


FIG. 2.--Inferior lobe of left lung; needle exposed.

There was an old cicatrix in the skin to the left of margin of the sternum. This was the only cicatrix we could find on the chest. We take this as the probable point of entrance. The needle, pointing downwards, entered the lung at the anterior border of the inferior lobe about two inches from the lower margin, passing downwards, backwards, and slightly outwards, reaching the outer surface of the lung at a point about four inches from its posterior border and two inches above the circumference of the base. It narrowly escaped wounding the pericardium and heart. The needle was four and five eighths of an inch long, the broken end being slightly bent, and the other end pointed and sharp.

The needle was completely encysted. Neither point emerged before

the manipulation of the lung in its removal. It was quite black, and was not in any way corroded.

Right pleura firmly adherent in places. A cavity, about the size of a hen's egg, was present in the apex of right superior lobe, and a second smaller one in the middle lobe. Tubercular infiltration throughout the substance of most of this lung.

There are many instances of like injuries recorded, but it was very surprising to us to find these needles at the post-mortem. The patient showed no symptom of distress by their presence. She passed careful examination of the heart before she was trephined by Dr. Webster, stood the operation well, and made an excellent and rapid recovery. There is no doubt about these foreign bodies being present for a long time. Since the operation in May last she has been comparatively free from her suicidal impulses, and I do not conceive it possible for her to wound the heart and lungs as these needles did without showing some such symptoms as in the two suicidal attempts in June, 1893, and in the same month 1894. It appears probable that it was at either of these times that the foreign bodies referred to above were inserted, unless she succeeded in introducing these before her admission to Rockwood.

My sincere thanks are due to Dr. Clark for photographing the specimens and sketching the heart, and to Dr. Webster, who made the post-mortem.

Selected Articles.

VAGINAL VERSUS ABDOMINAL SECTION IN DISEASES OF THE FEMALE PELVIC ORGANS.*

BY WILLIAM M. POLK, M.D., LL.D.,

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of the City of New York,
NEW YORK.*

THE rapid evolution of the surgery of the female pelvic organs is one of the great things of this part of our century. Question succeeded question in quick succession until many felt that the end had been reached, and all that remained was the task of perfecting what had been developed. Hardly had we settled down in complacent contemplation of our results with the Trendelenburg posture when we were rudely shaken by this cry of the "vaginal method." Turn from it as often as we may, it yet sings in our ears, and will not be silenced. Intrench ourselves behind a resolution to see in it nothing of good for our patients; view it as a new hobby upon which those of shallow judgment are riding to notoriety, not to honest repute; decry it in all and every way, and it will not down. This is proven by the experience of the past year in this country alone, not to mention what has occurred abroad.

We are to be congratulated that such has been the result of the agitation, for it shows the virility of the subject, and proves that there is a great deal in it for our consideration. As a matter of fact, it is probably the last great question in the surgery of the female pelvis, and deserves to be treated as such by our best men.

Vaginal section has already been injured by exaggerated claims in its behalf. It is folly to talk of driving abdominal section from the field with it, for the reason that conditions will always occur which can be so much better met by the former that no good surgeon would decline to employ it. I think also that the vaginal section will always serve as subordinate to the abdominal, even though it diminish the frequency of the latter one-

*Read at the general meeting of the New York Academy of Medicine, Dec. 19, 1895.

half or two-thirds. This belief is based upon the acknowledgment that abdominal section must sometimes be used to complete the work begun through the vagina. In other words, there are cases, supposedly entirely amenable to vaginal section, but which demand, as the operation proceeds, a better operative field, which can only be had by combined section. This single admission shows the interdependence of the methods, and suggests that wherever the boundary between them be drawn it must be made movable ; nothing hard and fast can be tolerated.

It is interesting to recall that vaginal section not so long ago held the vantage ground in this territory, and was driven out, except in the case of carcinoma, because of its poor results. This was due to its faulty technique in part, and in part to a lack of familiarity with the actual condition which could be present with a diseased uterus and appendages. Through abdominal section it has now informed itself and perfected its technique, and again comes forward for recognition.

Our attitude in this contention can be best expressed by assuming one hundred as the total of all cases of disease in question now recognized as suitable for section. One year ago I thought this could be divided equally between the vaginal and the abdominal. I now think seventy-five can be assigned to vaginal section, leaving twenty-five to be treated by the abdominal.

Beginning this work at Bellevue Hospital in February, 1892, we have now performed seventy-two vaginal sections, with three deaths, covering every species of disorder for which it has been advocated.

With this understood, we now submit a statement of conditions favorable, on the one hand, to vaginal section, and, on the other, to abdominal section.

Exploratory incisions. There are certain obscure conditions of the appendages of the uterus and sigmoid flexure in which exploratory abdominal section has become a recognized operation. Accurate vaginal and rectal bimanual palpation under ether is insufficient to discover enough gross lesions to account for symptoms. Direct palpation or inspection is needed for diagnosis. For instance :

CASE I. A young married woman, the victim of constant pelvic pain and dysmenorrhœa, came to the writer for operation, having been told by competent authority that nothing short of removal of the ovaries would effect a cure. The pain was referred to the region of the left appendages. Examination without ether revealed what appeared to be a thickening of the tissue at the base of the left broad ligament, the region being very tender. Under ether the thickening was less marked, but there appeared a sufficient contrast with the same region upon the right to leave the diagnosis in doubt, especially in view of the constant, long-continued

complaint of pain. A free incision was made into the cul-de-sac. A careful and thorough palpation of all the structures in the pelvis was made with two fingers, and nothing abnormal could be found. The appendages were drawn into the vagina, and inspection, as well as palpation, showed that they were normal. The patient was up in a week, and, as so often happens after an exploratory incision in such cases, was cured by the operation.

Or take another instance (Case 2). Following curettage and trachelorrhaphy, an inflammatory mass developed in the outer upper region of the right broad ligament. Supposing it to be salpingitis plus ovaritis, the cul-de-sac was opened with a view to removal or evacuation. To our surprise, tube, ovary, and surrounding peritoneal area were normal. But as the swelling was all the more evident, it was carefully palpated with a view to operation. The uterus was drawn down by volsella, and two fingers were swept over the entire pelvis—first over the posterior surface of uterus, then the anterior, then along the upper border of the broad ligaments, then down into the paravesical fossæ, thence over the bladder, the anterior pelvic, and, lastly, the posterior pelvic walls. The following abnormality was in this way mapped out. The outer upper region of the right broad ligament, including its line of connection with the pelvic wall, contained a hard mass; between it and the uterus was a distinct sulcus, in which the tissue, though thickened, appeared in fair condition. To the front, the right paravesical fossa was well-nigh obliterated, the outline of the linea terminalis, from the attachment of the broad ligament forward to near the symphysis, was obscured, all by soft swollen tissue, which evidently was nothing more than a collection of pus connected with and springing from the mass in the broad ligament. We were now at liberty to select an exit for the pus. This could be had in two ways: A direct incision above Poupart's ligament, turning up the peritoneum, reaching the pus about the pectineal eminence. Another route, and the one selected, was directly from the vagina. The cul-de-sac was closed; then, in order to reach the pus, and, at the same time, avoid the ureter, an opening was made as in anterior colpotomy; this was extended beneath the peritoneum, upward and outward, to the region of induration, whence the pus thus freely escaped.

Displacements fixed by adhesions. From several cases we select one (Case 3) in which the uterus was retroverted, ovaries prolapsed, and both, with the tubes, were bound down by firm and old adhesions. For two years prior to operation the patient had been subjected to vaginal tamponade, for the purpose, as was said, of stretching the adhesions, so as to permit the uterus and appendages to be raised by a pessary. The folly of this policy was never better illustrated, for the organs remained, as they

always do, in the abnormal position. Free incision of the cul-de-sac gave easy access to the structures. These were readily stripped of their adhesions, and then, by means of Alexander's operation, they were permanently placed in proper position. Easy and speedy recovery marked this case.

Ovarian tumors. All such tumors small enough to be contained, wholly or in large part, in the pelvic cavity should be removed by vaginal section. Tumors large enough to reach beyond the umbilicus, especially if they are pedunculated and are wholly outside the true pelvis, can be best treated by abdominal section. This observation applies with greatest force to multilocular colloid growths, but even then it is susceptible of modification in favor of vaginal section, if it can be shown that both ovaries are hopelessly diseased. Then, hysterectomy being permissible, sufficient opening is secured to evacuate properly and withdraw even such colloid growths. If this be true of these latter tumors, it applies with greater force to unilocular cysts with more fluid contents. From this it must appear that, while tumors wholly outside the pelvis can be best treated by abdominal section, many of these can be reached by the vagina, provided it be proper to remove the uterus. In these cases it is wise to operate with the hips somewhat raised, else the intestines and omentum will occupy the field, and are apt to cut off the escape of fluid, which then tends to ascend and accumulate just under the abdominal walls.

CASE 4. An intraligamentous ovarian cyst of the left side, with dimensions about equal to the foetal head at seven months, was removed per vagina through the cul-de-sac. Some difficulty was experienced in enucleating the sac. This was overcome, however, by opening the anterior fornix, through which the sac was easily removed. Our experience in this case impressed us with the advantages of the anterior over the posterior line of approach in the intraligamentous growths. By this route most of them can be removed without entering the peritoneal cavity. After reaching the under surface of the peritoneum, in the utero-vesical fold, it is only necessary to push aside the tissue with the finger, when the wall of the sac contiguous to the lateral uterine wall is easily reached and punctured. Subsequent enucleation can then be readily made. By hugging the uterus well up to the region of the body, before attempting puncture of the sac, one easily avoids ureter and bladder. Hæmorrhage is readily controlled by forceps.

CASE 5. *A small pedunculated ovarian cyst (size of foetal head at term).* The cyst was adherent to the pelvic floor; was, therefore, readily reached and quickly removed. All such cases are eminently fitted for the infra-pubic operation. Solid or fluid, hard or soft, benign or malignant, the

route through the cul-de-sac gives easy access and ready control of each and all.

CASE 6. *Extra-uterine pregnancy.* This was an example of an extra-uterine foetation, in which incision, evacuation, and drainage brought a speedy cure. Bleeding points were many, but they were secured by forceps, which were left in place forty-eight hours. This is a condition which, prior to rupture, one can always elect to reach by the vagina. The tumor from first to last is well down in the posterior regions of the pelvis, and is easily reached through the posterior vaginal wall. It may be necessary to remove the uterus, however, for without this addition we may have excessive hæmorrhage. Still, if one can get hold of the connection of the mass by clamping upon its two sides, outer and inner, bleeding can be stopped. After the placenta is fully formed, the child being alive, the suprapubic route would no doubt be preferable. Touching those cases, whether early or late, in which, from antecedent rupture or otherwise, the foetus is dead, the infrapubic route will meet every requirement, as we have then little more than to evacuate and drain.

Inflammation and suppurative disease of the appendages, including tubercular disease. This field is particularly rich in opportunities for vaginal section. In fact, there appears to be no stage which positively contraindicates it. It offers the best means of checking the ravages of acute inflammation, thus tending to the highest kind of conservatism; it affords opportunity for the partial plastic operations upon the adnexæ and uterus, and it gives us the best operation for suppurative disease of these same adnexæ, when their removal is demanded, as in tubercular disease and in the destructive inflammation of both appendages.

It is interesting to note that this class of cases has furnished the battle-ground of this question. But the increasing belief that the uterus must go with the appendages, that hysterectomy in destructive double adnexal disease is required, and, further, that plastic so-called conservative operation upon the uterus and appendages can be done through the vagina, bids fair soon to settle the question in favor of vaginal section.

CASE 7. *Acute processes.* This is an instance of acute salpingitis and pelvic peritonitis, following abortion at two and one-half months. The uterus was cleansed and packed with sterilized gauze; the cul de-sac by a free opening evacuated of turbid serum. The inflamed appendages were not disturbed, a loose gauze drain being carried into the cul-de-sac, which was first washed out with sterilized water. Finally, the vagina was loosely packed with gauze. This was removed at the end of forty-eight hours, the final result being all that could be asked.

This case illustrates what will probably be a common application of one step of the infrapubic operation, namely, the incision into the cul-de

sac with a view to drainage. This step appears to promise much in mitigating the damage which befalls the appendages in the face of the inflammations which come to them through those very common causes—abortions and gonorrhœa. The cleansing of the uterus, together with free drainage from the pelvic peritoneal area, seems to be the rational way of treating such cases; but it is a self-evident proposition that to be of service it must be done early.

CASE 8. *Acute puerperal metritis, etc.* In connection with the preceding case, the present one illustrates the ease with which one may go to extremes, when necessary, in puerperal septic cases. A woman was septic five days, the form being sapræmia rather than mere sepsis. In ten minutes the uterus was removed and the operation completed. The relaxed and dilated state of the whole genital tract makes the operation exceptionally easy. From this we infer that all such cases are peculiarly fitted for the infrapubic operation.

Chronic processes. For illustration, a synopsis of three cases is now given.

CASE 1. By means of *anterior colpotomy* the uterus was anteverted; the fundus and the appendages were brought through into the vagina. The right appendage was normal, the left diseased. The left was removed. The remaining organs were then returned to the peritoneal cavity. The opening in the peritoneum was closed, that in the vaginal wall left open. The uterus was curetted and packed; patient out of bed in a week.

CASE 2. By means of *posterior colpotomy* an adherent and purulent ovary and tube were discovered on the left side. They were removed, a clamp being used. Upon the right side the appendages, being normal, were not removed. The uterus was treated as in Case 1, and the patient did quite as well.

CASE 3 represented a double ovarian abscess and double pyosalpinx. The pelvis was practically filled with the mass and the associated adhesions. The uterus was first cut out, and then the left, and, lastly, the right appendages were removed. The process was tedious, and, owing to the intimate and firm attachment of the rectum, this intestine was torn. No attempt at closure was made, as the opening was small. The recovery was quick, but a faecal fistula remained for two months, when it finally closed spontaneously.

Fibroid disease of the uterus. The tumors when of small size are more amenable to vaginal section than almost any other condition. This has already been well brought out at the Obstetrical Society in this city, to whose proceedings I refer for more specific remarks in this direction.

In brief, it may be said that all fibroid tumors lying chiefly in the pelvis are suitable for morcellation by the vagina, the intraligamentous, for

instance. Pure myomata and fibro-cystic tumors, even though they extend as high as the umbilicus, may also be brought within the limits of vaginal section, but not so with the hard, pure fibroid growth. It is difficult to fix any limit for these ; but in general it may be accepted that where such tumors are wholly above the pelvis, and fill the hypogastric region, they had better be removed by abdominal section. Especially is this the case if the pelvis is narrow and deep ; but we find much encouragement to the removal of these growths by the vagina when we contemplate the remarkable work accomplished for so many years in the removal of submucous fibroids by vaginal morcellation.

Objections. After all has been said, it is plain, however, that there are objections to vaginal section which are sufficient to deter many operators from adopting it. Let us see what they are. The conformation of the pelvis does not exercise a decided and, it may be, a controlling influence. All deep, narrow pelves render vaginal section difficult, and in case of partial operations, such as removal of one appendage, when thickness and rigidity of the pelvic floor, as may be met with in some women, is added, will practically forbid it. In the presence of a male pelvis in a stout woman with a narrow vagina one should be slow to adopt vaginal in preference to abdominal section.

The claim is made that the operation is liable to be incomplete in the case of pus-sacs. No doubt this is true of the past, and perhaps at the present with some operators, but the youth of the operation accounts for this. The same objections formerly held good with abdominal section in such cases, as is shown by the number of inoperable cases that used to be reported.

Another objection is that viscera are more liable to be injured. This relates chiefly to the rectum, and is no doubt true, but in spite of it the cases do as well ultimately as similar ones done by abdominal section. Such cases when treated by abdominal section require drainage, and prolonged drainage, as a rule. This predisposes to hernia, so that against a temporary vagino-intestinal fistula in vaginal section one must put hernia with abdominal section.

Herniæ are not common after vaginal section, for if they were we would have heard more of them, in view of the long time vaginal hysterectomy for cancer has been a recognized and oft-performed operation. The claim that sepsis is more common is not borne out by the experience of the operators. It is true that the average temperature after vaginal section is higher for the first two or three days than after abdominal section, but this applies only to cases in which the forceps instead of ligatures are used.

The same comment applies to the objection urged on the score of the offensive vaginal discharge. Here, again, the claim rests against the

forceps rather than the ligature. But, after all, the objection is one readily controlled by proper vaginal douching, and is relatively an unimportant objection, when the advantages of vaginal section are considered.

Advantages. These briefly stated are: As much safety as abdominal section, and this, too, at its inception, leading one to believe that, with the same relative time and attention given to it that abdominal section has secured, it will be safer. The recovery is more rapid and the after-condition is better, because herniæ and omental and intestinal adhesions are less common.

Finally, we beg leave to say that, from all that has been said and done in this subject by the various operators, we might as well admit that a revolution is taking place in our methods of dealing with the uterus and appendages, and it is safe to say that most of the operations done now above the pelvis for conditions specified in this article will soon be done from below. It is merely a question of learning how to do it.

After giving a minute description (with good illustrations) of the various kinds of vaginal operations, he concludes his able article with a recapitulation of conditions favorable, on the one hand, to vaginal section; on the other, to the abdominal sections in diseases of the female pelvic organs:

Vaginal Section.

- (1) A shallow and wide pelvis in a thin woman.
- (2) Exploration of the pelvis.
- (3) Visceral adhesion in true pelvis.
- (4) Displaced and adherent uterus.
- (5) Smaller ovarian cysts, especially the intraligamentous and parovarian.
- (6) Smaller fibroids, especially the soft.
- (7) Extra-uterine pregnancy, up to seventh month, and after death of fœtus.
- (8) Pelvic hæmatocele.
- (9) Puerperal hysterectomy.
- (10) Acute inflammation of the appendages, with peritonitis, involving cul-de-sac.
- (11) Inflammatory destructive diseases of the appendages, including tubercular disease.
- (12) Pelvic abscess pointing downward.
- (13) Conservative operations on appendages that lie in true pelvis.

Abdominal Section.

- (1) A narrow and deep pelvis, especially if deformed.
- (2) Explorations above the true pelvis.
- (3) Visceral adhesions in false pelvis or above.
- (4) Large ovarian cysts, especially multilocular, with colloid contents.
- (5) Large fibroids, especially the firm and hard.
- (6) Extra-uterine pregnancy at time of rupture and of term.
- (7) Extra-uterine pregnancy, with tumor wholly above the brim of the pelvis, and not in relation with uterus.
- (8) Pelvic abscess pointing upward.
- (9) Conservative operations under conditions unfavorable to vaginal section, such as narrow and deep, or a deformed pelvis that is contracted.

DISCUSSION.

Dr. E. W. Cushing, of Boston, opened the discussion. He said that there could be no longer any doubt in the minds of those who had studied the evolution of vaginal hysterectomy that the resources of our art had been wonderfully increased by the introduction of morcellation of the uterus, and it was very significant that, in the face of opposition, the method had steadily increased in popularity, until now it numbered among its advocates some of those who at first had most bitterly opposed it. The question at the present time was really between total abdominal and total vaginal removal of the uterus and appendages. By splitting the uterus in half the organ could be brought down much further, and by successively dividing these halves it could be made to descend gradually and rotate anteriorly, thus bringing into view any adhesions that might exist. Clamps were applied to the vessels of the broad ligament under the guidance of both sight and touch. By this method of operating the uterus could be safely and quickly extirpated, even when bound down by firm adhesions, and fibroids up to the size of a coccoanut could be removed with far less shock than by abdominal section. The simplicity of this method, and its comparative freedom from danger, could hardly be believed by one who had not had the opportunity of seeing it done by an expert. If the tubes are full of pus, they may be opened and washed out without soiling the peritoneal cavity. It was generally accepted, the speaker said, that the vaginal operation was best in the severest cases—those in which there are large purulent accumulations from tubo-ovarian abscesses, or from suppurating hæmatocle where the pus is roofed in by dense adhesions of bowel and omentum. When it is not certain that both appendages are involved, the vaginal vault can be opened behind, or, still better, anteriorly, and the question of the removal of the appendages determined by inspection. The advantages of the vaginal operation were diminution of shock, freedom from abdominal wound and scar, and from liability to hernia.

Dr. W. T. Lusk said that it was particularly interesting to hear from Dr. Polk on this subject, as he had been the pioneer in this work in this city. When it had been proposed in Brussels, in 1892, to substitute the vaginal route for the abdominal method in doing much of our work, the speaker said that he had received the suggestion with impatience; but his attention had been called to the method by the great rapidity of convalescence of patients operated upon by the vaginal route, and he had at last become a convert to the vaginal operation. The capabilities of the method had been strikingly demonstrated to him by a personal observation of the work of such surgeons as Péan, Pozzi, Ségond, and Jacobs. Notwithstanding the length of time required for the removal of fibroids by the vaginal route by morcellation, it was worthy of note that the operation had scarcely an

appreciable effect on the patient. In cases of double pyosalpinx, in which the uterus was removed first and the tubes afterward, the vaginal method was certainly safer than the abdominal. In closing, the speaker cautioned those who wished to change to the vaginal method to go slowly, and select for a trial of this method only the simpler cases. He felt sure that these vaginal operations would be followed by much less discomfort in the patient.

Dr. J. M. Baldy, of Philadelphia, said that he believed he was almost alone here in opposing the vaginal operation. He had no quarrel with the beauties of the vaginal method, nor did he question many of the advantages and results ; but he felt that the two routes had not been compared with sufficient care. He was positive that there was as little shock after the abdominal operation as after the vaginal operation, and also that the peritoneal cavity was opened almost as frequently by the vaginal route. He also contended that it was infinitely more reliable to operate through the abdomen, with the patient in the Trendelenburg position, than to operate by the vaginal route, because in the former one had the aid of both sight and touch, and was in a much better position to determine whether an operation should proceed further or terminate as an exploratory incision. In comparing the two methods of operation, great stress was laid upon the very slight degree of shock observed after the vaginal operation ; but, in his experience, shock was not a great element in pelvic surgery. The bright side of the vaginal method had been very ably presented, but nothing had been said about the alarming proportion of fistulæ following this operation. Most operators by the vaginal route had included fifteen or twenty cases of fistulæ in their lists of these operations, and many of them had spoken of the difficulty of curing them. Sometimes an abdominal operation was demanded for the relief of this serious complication of the vaginal operation. Injury to the ureters was not at all uncommon, and by the vaginal method the operator was ignorant of the existence of the complication.

One of the great objections to the vaginal method was the incompleteness of the operations. He had never seen a vaginal hysterectomist do a complete operation. As an expert operator required nearly twice the time to operate by the vaginal route as by the abdomen, this prolongation of the etherization was a matter for serious consideration.

Dr. E. B. Cragin said that the first vaginal cœliotomy he had ever seen had been done by Dr. Polk, and the more he saw of vaginal work the better was he pleased with it. All surgeons must have noticed a certain depression of the patient after abdominal operations ; and, without stopping to consider whether or not this was shock, he would say, further, that all must have noticed also that this depression was not so great after the vaginal

operation. He could not agree with Dr. Baldy in excluding from the cases suitable for vaginal operation large pelvic intraperitoneal abscesses. These were exactly the cases in which the vaginal operation showed its superiority.

Since March 2, 1895, he had performed 55 vaginal cœliotomies, of which 42 were for diseased appendages. According to his experience, therefore, about 75 per cent. of cases of diseased appendages were suitable for the vaginal operation, and the remainder for the abdominal operation.

Dr. Charles P. Noble, of Philadelphia, said that the arguments in favor of the vaginal route had been presented, but everything had been stated in very general terms. He would like to ask Dr. Polk and Dr. Cushing how many vaginal operations they had done, how many deaths they had had, and how many fistulæ they had met with.

Dr. Polk replied that his mortality had been 3 in 72, and the fistulæ 2 in 73.

Dr. Cushing said that he had had about 75 vaginal hysterectomies, with 5 deaths; and of this number there had been 2 urethral fistulæ and 1 fistula of the bladder, all of which had been cured. In a recent series of cases there had been 20 vaginal operations, with 1 death. All his operations had been complete.

Dr. Noble said that, in comparing the two methods of operating, one should consider the mortality, the morbidity, the sequelæ, the mode of convalescence, and the ability to deal with complications. The mortality was very low by both methods. The morbidity after abdominal operations was not more than 5 per cent. in his experience. Adhesions occur in both methods. Most operators reported about 10 per cent. of incomplete vaginal operations, which should be contrasted with the small number of infected pedicles in the abdominal method. He thought that there was but little doubt about bowel and bladder fistulæ being more frequent after the vaginal operation. By the abdominal route, in his opinion, it was far easier to cope with complications arising during the operation, and also to control the hæmorrhage. The use of clamps to arrest hæmorrhage was, at best, very crude surgery.

Where the facilities in a hospital for securing asepsis were poor, he would prefer to operate from below. He was prepared to believe that by anterior colpotomy one could remove small fibroids, but for larger tumors he would greatly prefer abdominal section to the vaginal operation with morcellation. He would likewise prefer the abdominal route in dealing with tubal pregnancy, except in the few cases in which there was a suppurating hæmatocele. The operation from below was likely to result in the unnecessary sacrifice of ovaries in this class of cases.

He did not wish it to be understood that he was opposed to all

operating through the vagina, but he would reserve this method for cases of large pelvic abscess, and where the women were very fat.

Dr. H. J. Boldt said that his conclusions regarding the comparative advantages of the two methods had been formulated only after a large experience with both abdominal and vaginal operations. The vaginal operation was applicable to tumors of considerable size, provided the neoplasms were movable, to cases of tubal pregnancy before rupture, or after rupture and cessation of hæmorrhage, and to fibroids which did not extend more than three or four fingers above the symphysis. The submucous and interstitial fibroids were most successfully treated in this way. For other fibroids, and for neoplasms in virgins, he considered abdominal hysterectomy preferable. It was quite possible to do a complete operation in nearly every case by patient and careful work. The risk of injuring ureters and bowel was about the same in the two methods.

Dr. N. H. Vineberg said that his experience was entirely opposed to the view that the tubes and ovaries could be resected more satisfactorily by the abdominal route. The vaginal operation was particularly appropriate to these cases, because they were often associated with retroversion, a condition which could be readily relieved at the same time by sewing the uterus to the vaginal wall. He could not see that Alexander's operation offered any special advantages over anterior vaginal fixation.

Dr. Paul F. Mundé said that the discussion thus far was calculated to convey the impression that all the New York surgeons had been converted to the vaginal procedure, which was far from the truth. He had extirpated the uterus per vaginam for cancer twenty-seven times, with twenty-four recoveries ; but as he had secured just as good results, and more easily, by the suprapubic route, he would not care to employ the vaginal method in these cases hereafter. There was certainly no more shock following the abdominal section. As was well known, he was not given to operating frequently on fibroids ; but out of the thirty-three abdominal hysterectomies that he had performed for this condition, four had died. The abdominal operation was certainly easier than the vaginal. He had long maintained, and in the face of much opposition, that all fluid accumulations were best operated upon through the vagina, and he was glad that this method now had an increasing number of advocates. He would limit the vaginal operation to cases of pelvic abscesses, in which the vaginal was roomy and the sacs could be drained or enucleated.

Dr. E. E. Tull exhibited a specimen to demonstrate the completeness of the vaginal operation. He had done fifty operations of this kind, with two deaths. These deaths were due to purely accidental causes. He could not understand why some surgeons used so many clamps and ligatures. He had recently removed a tumor weighing ten pounds, and in this operation had used only one clamp and two ligatures.

Dr. W. Gill Wylie said that, although he had done about 1,500 abdominal sections, he had resorted to the vaginal route only 100 times. Out of these 100 vaginal hysterectomies there had been only one fatal case, and he attributed his excellent results largely to the fact that these vaginal operations had been done in a favorable class of cases. The abdominal method was assuredly the one admitting of more general application, and, if the great surgeons of France had been as expert in abdominal surgery as the American and German surgeons, he was of the opinion that the vaginal method would not have been so strenuously advocated.

Dr. Polk, in closing the discussion, said that there seemed to be a general agreement regarding the greater simplicity of the abdominal route; and although it was a general rule that the easier the operation the better the work done, this proposition did not hold good if in attaining this ease of operation it was necessary to do violence to important structures. The peritoneal cavity was just as likely to be opened in the one method as in the other. When the time consumed in suturing the abdomen was considered, it was evident also that there was no very great difference in the time occupied by the two operations in a given case. He had made no mention of cancer in his paper, because he was not decided as to which operation was the better one. He was inclined to think, however, that we were justified now in performing abdominal section, and in adding to the old Freund operation the removal of the broad ligament and of infected glands.

It so happened that those who had participated in this discussion had not grasped what he considered the great underlying principle, viz., that peritonitis usually originates in the lower part of the pelvis, in close relation with the vagina, and that by early incision into this structure it was possible, with little or no risk to the patient, to cut short diseased processes and save important structures in the pelvis. Having once adopted this practice of early operative interference by the vaginal route, he felt confident that all the objections that had proved such stumbling-blocks in this discussion would be forever wiped away.

A RATIONAL TREATMENT FOR PHTHISIS PULMONALIS, TOGETHER WITH SOME NOTES ON A NEW REMEDIAL SOLUTION.

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DURING a study of phenol, made in the early part of 1895, I was very much struck by the observations of Stadler, Merck, Brieger, Salkowski, and others. These investigators declared phenol could be found in the urine of man, the horse, and the cow.*

According to Merck, healthy urine from a mixed diet contains 0.004 gram of phenol per litre, and, according to Salkowski, under pathological conditions the amount may rise as high as 1.5575 grams; in other words, during health phenol is a normal constituent of the urine,† and during disease the per cent. present is enormously increased.‡

It has long been my personal belief that many pathological phenomena observed in diseases which are not usually credited to germ infection are but the manifestations of the absorption of poisonous bacterial products. For example, the high temperature of fever may arise from the poisoning of the nerve-centres by such products. If this be true, then the increased secretion of phenol by the system during disease is, in fact, one of nature's many devices to cure the underlying condition, to destroy the germ infection. The increase of phenol elaborated by the system during pathological conditions is, in the light of the knowledge we have of bacteriology and of phenol, extremely significant. This reasoning naturally led me to

*Am. Chem. Pharm., lxxvii, 360.

†Phenol occurs in the urine as the potassium salt of the unstable phenyl-sulphuric acid, and for this reason can be detected only by distillation with hydrochloric acid (see Ber. Deutsch. Chem. Ges., ix., 1595-1596). According to Brieger, phenol is also found in small quantities in excrement (Jour. Prakt. Chem. (2), xvii., 133).

‡Brieger found increase of phenol in urine during scarlatina, erysipelas, etc. (Hoppe-Seyler's Zeitschr., iv., 204). According to Wohler the præputial glands in the beaver secrete a substance known as castoreum, which is found to contain small quantities of phenol (see Am. Chem. Pharm., cxvii., 360). It has also been demonstrated by Baumann that when albuminoid bodies are allowed to putrefy in the presence of some water and pancreas phenol is formed (Ber. Deutsch. Chem. Ges., x., 685).

think phenol was selected by nature for the cure of some, at least, if not all, of the so-called germ diseases. Of course, the conclusion was obvious, but the corollary of that conclusion, which assumed great importance in my mind, was this : If nature herself provides phenol during disease, then it cannot be possible she will not tolerate the administration of the agent in effective dosage. Yet this fact stared me in the face, that an injection of any known solution of phenol in effective dosage was believed to cause poisonous symptoms. This was equivalent to saying there must be some form in which phenol could be injected in effective dosage, which would aid nature in her efforts to effect a cure, and which would be tolerated by the human system. Moreover, it was apparent to me that phenol, being the only known antiseptic agent, except its homologue, cresol,* of which the amount in the system is increased during disease, it would be the best to select for experimental purposes to the exclusion of any other. When we follow Nature along her efforts to effect cure, we cannot go far wrong. The problem before me, then, was to find the form of solution of phenol which Nature would tolerate.

With this idea in mind, and remembering the fact that creosote has been, and is, extensively used for the treatment of tuberculous disease, more especially for pulmonary tuberculosis, and, furthermore, knowing that creosote, according to the latest chemical researches, is not phenol,† as it was formerly supposed, but merely has the latter as one of its constituents, I formed the opinion that the so-called creosote treatment, which may almost be said to have become a fad among physicians, depended for its success mainly on the presence of the phenol the creosote contained.

Now, there is a fatal objection to the creosote treatment, namely, its derangement of the digestive function when continued for any considerable length of time, and this objection holds equally good in the case of phenol administered by the mouth. Therefore, it was apparent that some other mode of administration should be chosen. I then took into con-

*Cresol hydrate is the homologue of phenyl hydrate, and we might expect to find cresol (taurylic acid) in the urine ; in fact, Baumann found it in the urine of gramivora, occurring as the potassium salt of paracresyl-sulphuric acid (Ber. Deutsch. Chem. Ges., ix., 1, 389, 1, 716). Urine of the horse also contains some orthocresyl-sulphuric acid according to Preusse (Hoppe-Seyler's Zeitschr., ii., 355, also Ber. Deutsch. Chem. Ges., xi., 1911).

†While creosote has under certain favorable circumstances proved of value, still it cannot be relied upon. This fact is readily explainable, as Hugo Miller, Gorup-Besanez, Marasse, and Tiesnau have shown that creosote is not phenol, but that, although it contains some, it is composed principally of paracresol, phlorol, guaiacol, cresol, methyl-guaiacol, methyl-cresol, etc., all of which exercise certain actions on the system peculiar to themselves. Creosote contains : Some phenol, C_6H_5OH ; paracresol, C_7H_7OH ; phlorol, C_8H_9OH ; guaiacol, $C_6H_4OCH_3OH$; creosol, $C_6H_3CH_3OCH_3OH$; methyl-guaiacol, $C_6H_4OCH_3OCH_3$; methyl-cresol, $C_6H_3CH_3(OCH_3)_2$, etc.

sideration Gilbert's reports* of the administration of phenol solutions by the rectum in cases of phthisis, and came to the conclusion that the favorable percentage of cures (Gilbert claimed twenty-five per cent.) would probably be very much increased if the phenol could be administered hypodermatically. This I found had been done by Declat,† Sistani, and others,‡ who had made steps in advance of the former observer. The preparations of phenol recommended by them did not give me results with which I was satisfied.

I determined, therefore, to experiment with a view of producing a fluid which could be administered hypodermatically, without irritation or toxic effects, and which should at least contain phenol in such effective dosage as would turn the scale of natural resistance in favor of cure. I am well aware that many men have drawn conclusions from experimental research that at least one per cent. of phenol to the entire amount of blood in the system is necessary to effect the result I aimed at, and that such an amount would be overwhelmingly toxic.¶ But these scientists too often lose sight of the fact that experiments outside of the body are not, and never can be, identical with results depending in part on factors operating within the body. The blood is an antiseptic fluid when within the body, and one of very considerable power. Its natural resistance to germ infection, though this doubtless varies in different individuals, is great. A comparatively small amount of antiseptic reinforcement, therefore, may be sufficient to increase that resistance to the desired point.

I will not enter into a description of the long line of experimental work in the laboratory which finally led to the production of the fluid I have used in my formulated treatment of phthisis.

In order to enable physicians who have used it to understand what they were administering to their patients, I prepared a confidential circular, which contained an exceedingly rough description of the method of manufacture. It will at once be apparent, from the report printed below, that it would have been impracticable for me to send a detailed description, such as is here given.

Desiring to have the description of its manufacture as complete and scientific as possible, I requested Professor Henry A. Mott, the distinguished chemist, to investigate the process and report to me. Dr. Mott kindly consented, and his report is as follows :

*See Annual of Universal Medical Science, Sojous, "Phthisis Pulmonalis," 1892-1893.

†See Works.

‡See Practitioner, vol. i., p. 4, 1894. Lancet, November 25, 1893.

¶"Reference Handbook of Medical Sciences," vol. i., p. 759.

“ Laboratory of Henry A. Mott, Ph.D., LL.D.

“ *Cyrus Edson, M.D.*

“ DEAR SIR,—Pursuant to request, I have examined the preparation known as ‘aseptolin,’ as also the process employed in its manufacture, and I have the honor to report as follows :

“ By means of chemical analysis, there can be separated from the fluid in question a colorless crystalline salt, which is new to the medical profession, being a chemical combination of absolutely pure phenol (C_6H_5OH) and the alkaoid pilocarpine ($C_8H_9N_2O$). This pilocarpine-phenyl-hydroxide ($C_{11}H_{16}N_2O_2.OH.C_6H_5$) exists in the fluid, dissolved in an aqueous 2.75 per cent. solution of phenol.

“ *The Composition of the Fluid.*—

	Per cent.
Water (H_2O)	97.2411
Phenol (C_6H_7O)	2.7401
Pilocarpine-phenyl-hydroxide ($C_{11}H_{16}N_2O_2.OH.C_6H_5$)	0.0188

Total Total 100.

“ The composition of pilocarpine-phenyl-hydroxide ($C_{11}H_{16}N_2O_2.OH.C_6H_5$), deduced by calculation, is as follows :

	Per cent.
Pilocarpine ($C_{11}H_{16}N_2O_2$)	53.92
Phenol (C_6H_7O)	46.08

Total Total 100

“ It is not the function of the chemist to speak of the medicinal properties or applicability of a drug ; hence I will proceed to a description of the manufacture of the new compound which you have, after laborious research and experiment, produced, and also set forth the process adopted for the production of aseptolin.

“ Your experiments have shown that none but the very purest chemicals can be employed. The phenol obtained in the market, besides containing traces of para-cresol (C_7H_7OH), contains, as a rule, other impurities which unfit it for the direct preparation of this fluid.

“ Starting with phenol distilled directly from its hydrate ($2C_6H_6.OH_2O$), which has a much higher melting-point and a much lower boiling-point than the phenol ordinarily obtainable, I find that you subject a solution of such phenol, distilled in water, to an additional distillation, heating the vapor as it passes from the retort to the receiver in an oil-jacketed tube (in which a thermometer can be inserted), and then condensing the same in a double-stoppered receiver, which enables you to reject the first ten per cent. so condensed, utilizing the remainder, with the exception of the last ten per cent., which is likewise rejected.

"In the preparation of pilocarpine-phenyl-hydroxide, it is necessary only to weigh out an equivalent proportion of this purified phenol solution (after determining its strength by chemical analysis), heat the same to about 100° C. (212° F.), and then gradually add to it an equivalent amount of the pure alkaloid pilocarpine, when, on standing for ten or twelve hours, the uncrystallized pilocarpine-phenyl-hydroxide will separate out. From this salt the fluid may be directly prepared, by following the analysis given above. The usual method, however, adopted in its preparation on an extensive scale is as follows :

The highly purified phenol is diluted with distilled water until the percentage of phenol is reduced to exactly 2.75 per cent., which can be determined by the phenolometer. This is introduced into glass-stoppered receivers, which have been thoroughly cleansed with boiling water. In the receiver the right proportion of the alkaloid pilocarpine is put, so that, as the phenol distils over and condenses, it immediately combines with the pilocarpine in the production of the fluid. The temperature of the receiver is kept reduced by means of a small stream of water, yet sufficiently high to insure the desired union, but is never allowed to approach a temperature which would permit of the alkaloid suffering any other chemical change.

"Experiment has demonstrated that strict adherence to the above methods is required in order to produce aseptolin of a uniform composition and of an absolutely colorless physical appearance. A cloudy, milky, or slightly tinted preparation should be rejected. The proportions of the constituents do not permit of the presence of even traces of foreign bodies, if reliable results are to be expected. I am, sir,

"Yours respectfully,

"HENRY A. MOTT, PH.D."

It will be noticed that Dr. Mott speaks of "aseptolin." Thinking this was a good word, and following the convenient fashion of substituting a name for a formula in writing, I have called this chemically pure solution of phenol and pilocarpine-phenyl-hydroxide, aseptolin, because it is more convenient than is the repetition of the formula ; but it is unnecessary for me to say that in order that such a name may not be classed with that of a proprietary remedy, the profession is free to substitute a better term if need be, and either in its present form or in any other the new agent can be used as freely as any compound or combination of the Pharmacopœia.

Pilocarpine was added to the solution for two reasons : (1) To induce leucocytosis ; * (2) to stimulate glandular activity. It also accomplishes a

* "Beobachtungen an Leukocyten, sowie uher einige therapeutische Versuche mit Pilocarpin bei der (Diphtherie?) Streptokokken-Angina, Lymphdrusen-Erkrankungen, Tuberculose und Lupus," von Dr. Louis Waldstein aus New-York (Sonderabdruck aus der Berliner klin. Wochenschr., 1895, No. 17).

third purpose, for it is an expectorant and stimulant of secretion of very considerable power. It causes a certain increase in the amount of water separated from the blood in the lung cells. This is shown by the fact that there is an increase of watery vapor carried off by the breath of a person taking it.

A short study of pilocarpine is interesting. A. Curci* states that this drug produces hypersecretion; in large doses it causes convulsions and paralysis. The paralysis is accounted for by regarding pilocarpine as a quaternary ammonium compound; but phenol and the oximhydroxol group are more powerful in producing hypersecretion, while, at the same time, there is less danger of causing convulsions and paralysis. It is not improbable that in the organism change may occur, a pilocarpinate being formed with the bases of the body. In dogs the drug leaves a body in the urine as free pilocarpine, and also as a pilocarpinate. Pilocarpine has been used in croup and diphtheria by Sziklai,† he giving pilocarpine hydrochloride in doses 0.02 to 0.07 gram for children, and 0.08 to 0.10 gram for adults. Leyden has used one-half to two per cent. solution for subcutaneous injection. Ringer and Jamieson‡ have administered for experimental purposes 0.0325 gram of nitrate of pilocarpine. Weber§ experimented on himself, using 5 c.c. of a one-half per cent. solution. No one who has given a large dose of jaborandi or its principal alkaloid, pilocarpine, and has observed the enormous amount of water that almost fills the lung cells, the small and larger bronchi, will forget the danger that impends from œdema of the lung. Of course, the amount of pilocarpine, even in the largest doses of the fluid, is not sufficient to cause a perceptible effect in this direction.

From what has been said, it will be apparent to all chemists that the fluid is a hydrophenol, containing a definite amount of the new pilocarpine compound.

It is not very difficult to make, provided one has the apparatus, and is sufficiently careful. It needs extreme care. The experience of my laboratory assistant, as written in a note to me, was as follows:

“For two months I could not produce a satisfactory fluid more than once in three times; in fact, I think we threw away, during the first three months, about one-half or nearly all of what we made. The results of our experiments with guinea-pigs were such as to convince anyone that no phenol solution of the strength of the pilocarpine-phenyl-hydroxide solution, except the latter, could be safely injected. If other men make it,

* Chem. Centralb., 1893, 659. Also, *Annali Chem. Farm.*, 1894, 3-8.

† *Actyl. Prakt.*, 1893, 914.

‡ *Phar. Jour.*, 3, 596.

§ *Med. Centralblatt, Wien*, 1876, p. 769.

they should be extremely careful; otherwise their product may give rise to serious consequences. At the same time, there is no reason why a competent chemist should not make it successfully."

The solution prepared in my laboratory is a colorless fluid, strongly refracting light, having the characteristic odor and taste of phenol. Injected under the skin, it causes a sharp, burning pain, not so severe as that following an injection of bichloride of mercury in solution. In the great majority of cases, the injection is not followed by any local irritation whatever. In a few, a small nodule appears at the point of injection, which, as a rule, disappears after a few days. Dr. Glover C. Arnold, of New York, declares that this nodule results from injecting fluids against the flow of the capillary lymphatics, and advises all hypodermatic injections to be made with needle inserted in the direction of the flow of these lymphatic vessels. This, in the abdomen, which, in my opinion, affords the best site to give large injections, would be affected by directing the insertion of the needle away from the median line. Though I have given over one thousand injections, and some of them very large ones, viz, single injections of three hundred and fifty minims each, I have not seen a single abscess resulting therefrom, and nodulation in only two cases; one of these was on my own person, following an injection of two hundred and fifty minims for experimental purposes. No reaction, such as follows the administration of tuberculin, is observed after the injection of properly prepared pilocarpine-phenyl-hydroxide solution, nor is there any visible physiological action noted following an injection of two hundred and fifty minims, given to a man weighing one hundred and fifty pounds, except that the urine passed subsequently reacted strongly to tests made to ascertain the presence of phenol, and traces of phenol were noted in the condensed vapor of the breath, and in the contents of the stomach drawn off through the œsophageal tube within three hours of injection.

The effect of the solution when injected into the organism of a patient suffering from disease caused by active germ infection is to directly inhibit bacterial development, and, consequently, to diminish the production of poisonous bacterial products. Its beneficial effects are so quick and positive, in the great majority of cases, as to convince anyone who uses it of the correctness of this conclusion. Phenol and pilocarpine phenate both stimulate glandular activity and exert a physiological effect in this direction over the range of which they act synergistically. It follows, therefore, that the remedy stimulates the production of the leucocytes.

Experience certainly has taught us that stomach derangement in cases of phthisis, if not speedily remedied, very quickly results in the death of the sufferer. It is right here that I claim an enormous advantage for the treatment that I am using. It enables us to save the stomach for ali-

mental purposes alone, and, by giving easily digested, rapidly assimilated and highly nourishing food, a very great factor in a favorable result is secured.

The dosage, so far as I have been able to formulate it, in a case of phthisis, should begin with fifty to seventy minims daily, given in the abdominal parietes in a single injection. This dose should be increased about ten minims daily, until one hundred or one hundred and twenty minims is reached. Thus, commencing with a dose, say, of seventy minims on the first day of treatment, on the second day eighty minims should be given, on the third ninety, and on the fourth one hundred. This latter dose should be kept up daily until the patient has recovered, or until some symptoms appear which indicate to the attending physician the discontinuance of the fluid. This would probably be the case if, for instance, albumin should appear in the urine, or if unusual nervous symptoms should develop, or if persisting nausea should be present, or if any symptom which was evidence of a personal idiosyncrasy against the remedy should show itself.

With these injections—I inject daily, or in some cases every other day, the treatment depending upon the severity of the disease and the response of the patient to the remedy—I give inhalations delivered from a Sass spray tube and a globe inhaler. These inhalations are of very great importance. The most efficient of the sprays I have found in a ten per cent. solution of iodoform in ether :

Iodoform.....	10 parts.
Ether.....	90 “
	—
	100 parts.

This is given once or twice daily through a Sass tube having laryngeal delivery. The spray is best given under a delivery pressure of one atmosphere. This, of course, necessitates the use of an air pump and a receiver, which can be purchased from almost any reputable surgical instrument maker. The spray tube should be introduced in such a manner that the tip nearly touches the posterior pharyngeal wall, when the spray will be delivered into the larynx. Care should be taken not to deliver the spray too forcibly. The patient should inhale and exhale deeply during the delivery of the spray, in order to draw the spray as far into the affected region as possible.

The object of the spray is to assist in clearing the larynx and bronchi of infective material contained in their secretions.

In some cases it will be found almost impossible to give the spray in a satisfactory manner at first. A spasmodic cough will follow the first inhalation. Experience of this kind led me to use a solution of phenol in water

containing some glycerin to assist nebulization. Expressed in form of a prescription, this would be as follows :

R. Acid. carbolic..... 3 parts.
 Glycerini..... 10 “
 Aquæ destil..... 87 “
 M. Sig. Use in globe or other inhaler.

After a few inhalations of this, the air passages, as a rule, lose their irritability, and the iodoform and ether can be readily used.

A few patients will be found, however, to whom the odor of ether is intolerable. To these I give an inhalation of olive oil, containing ten per cent. of iodoform in solution. This solution can be made readily by any pharmacist. Iodoform is not very soluble in alcohol, or this would afford, perhaps, a better menstruum for the purpose than does olive oil. The vaporization of the iodoformed oil is best effected by means of the globe inhaler. Lacking this, the McBride inhaler may be used, or it may be given with one of the nebulizers, such as are found in the pharmacies. I consider the oil and iodoform an efficient substitute for the iodoform and ether solution. I have seen no ill effect from the cold vapor produced by the ether solution in any case I have had under treatment, and my experience has led me to consider it the best of all inhalations for phthisis when it can be used.

I have obtained good results in the treatment of atelectasis by means of compressed air which is delivered through a large globe inhaler, at a pressure of about ten pounds to the inch. This should be used with caution, and not in advanced cases, lest it cause hæmorrhage. The method of procedure is as follows :

The inhaler being connected with its atomizing attachment, the openings into the afferent end are closed, so as to permit the interior of the globe to hold the pressure when the patient's lips close over the mouth-piece. The air being turned on, the patient is directed to inhale deeply. The deep inhalation, aided by the vis a tergo of the compressed air, forcibly distends the lungs, opening up disused portions, into which the vaporized spray is carried. After practising this procedure the first few times, the amount of expectoration is frequently increased to a very great degree, and breathing becomes much freer and easier. The pneumatic cabinet would, doubtless, afford a more efficient means of effecting this than the one just described, but few physicians can afford to purchase so expensive an apparatus.

A number of patients present themselves who seem to have forgotten how to breathe properly. They expand the lungs so feebly that the distal parts seem to have consolidated simply from want of use. A little earnest advice on the use of "lung gymnastics" at home, together with the forcible inhalation through the globe inhaler, accomplishes much.

My experience with pilocarpine-phenyl-hydroxide in the treatment of malaria leads me to consider it a specific, and of even greater efficiency than quinine.

I have personally treated thirty-eight cases of this disease. In the great majority of cases the mode of administration was as follows :

On the first day of treatment, two hundred minims were injected as an initial dose. This was delivered into the abdominal parietes in two injections of one hundred minims each, on either side of the median line, the point of the needle being directed away from it. On the second day, and each day following, until and including the seventh day of treatment, one hundred minims were given (injected into the abdominal parietes in different places, first on one side of the median line, and then on the other). Then, on three alternate days, one hundred minims were given in a like manner. On the twenty-first day a dose of one hundred minims was administered, and, finally, the treatment was concluded with an injection of one hundred minims on the twenty-eighth day. Latterly I have given two hundred minims on the twenty-eighth day as a final dose.

In not a single case has there been any recurrence of the malarial paroxysm after the first injection of two hundred minims, nor have any of my cases had a recrudescence or a recurrence of the attack. The patients appear well in every way within a few hours of the first injection. The medicine appears to act equally well when given during the paroxysm, or during the intermission or remission, and in remittent types as well as intermittent. Dr. John H. Ripley, of New York city, used the solution in two cases of malaria, which he describes as follows :

"The first was a complicated one, but the malarial factor seemed to yield readily. The second was a very chronic malarial poisoning, in a very young girl. Her case was treated according to your plan, carried out to the letter (described in the foregoing). She came from Brooklyn, and remained in New York so as to get the full benefit of the treatment. The disease yielded by degrees. After one week she appeared well, but a relapse occurred a week after the treatment was discontinued. I then sent her to a non-malarious country place in Connecticut, where she has since resided, and remained well. This was a very obstinate case of recurring malaria, in which I had given large doses of quinine hypodermatically, with only temporary relief."

In reporting results obtained from the application of the treatment described in the foregoing, I find myself confronted by many serious difficulties, not the least of which are lack of time and space. My practice has demanded an amount of attention that has put serious obstacles the way of my work. I have, however, been very greatly assisted in testing the fluid by able practitioners, to whom I owe a debt of gratitude.

Among these are Dr. R. P. Lincoln, Dr. John G. Perry, Dr. E. N. Brandt, Dr. John H. Ripley, of New York city, and Dr. Lewis Balch, of Albany, N.Y. The experience of these gentlemen will probably be given in articles of their own. I have prepared and written reports of a large number of cases treated, but in an article of this kind find space for only a very few typical ones, more to illustrate the method of treatment than its efficiency.

CASE I. W.M., male, æt. 24, good family history. Has suffered from cough; normal weight, about 158 pounds; September 3, 1895, 128 pounds; had occasional night sweats, and attacks of facial and intercostal neuralgia. Expecterated about an ounce and a half of muco-purulent sputa daily, containing large numbers of tubercle bacilli, also streptococci; a slight daily rise of temperature, 99.4° F. to 100.3° F. being the evening temperature. Physical signs showed a small cavity surrounded by an area of consolidation, in middle lobe of right lung. This general condition was first noted in December, 1894, but improved so as to have entirely disappeared during a six months' residence in New Mexico. Upon return to New York there was recrudescence. Prior to September 3 he received extract of malt with cod-liver oil, creosote carbonate, and a cough mixture containing codeine and ammonia. Under this the patient rapidly lost ground.

September 3. Sixty minims of the fluid were injected into the abdominal parietes, and iodoform spray administered. Nutrient treatment, consisting of emulsion of cod-liver oil somotose in chocolate, egg phosphate, etc., was prescribed. The dose of the fluid was increased ten minims daily, until one hundred minims daily were given.

September 10. Cough much better, expectoration diminished one-half, and containing fewer bacilli; temperature normal; no return of night sweats; physical signs seemed slightly improved.

October 1. Had had one hundred minims daily since September 10, and the spray had also been daily administered. No cough or expectoration; with difficulty a little sputa, consisting purely of mucus, could be obtained, and this contained no tubercle bacilli. The patient seemed in normal health; had gained six pounds; appetite excellent; objected to further treatment, on the ground that he was well. This improvement has been held until the present time, January 4, 1896, except that the patient had a severe coryza and slight bronchitis in November, which necessitated treatment for one week, during which he was given one hundred minims of the fluid daily, and the spray as described in foregoing. Patient has not yet regained his normal weight, however, weighing at date 148 pounds. His sputa have been repeatedly examined, but no bacilli have been found.

CASE 2. L.B., female, *æ*t. 22, married, good family history, has had two children, both being well and strong. Disease is of long standing, beginning some time in 1892. Apices of both lungs showed extensive atelectasis ; bronchitis with profuse expectoration, about three ounces of muco-purulent sputa daily ; no cavities, but some shreds of fibrous lung tissue in sputa, which also contained large numbers of tubercle bacilli ; loss of weight, strength, and appetite ; diarrhœa ; night sweats ; cough severe and almost constant, breathing hurried ; shortness of breath preventing much outdoor exercise, very little exertion inducing palpitation ; patient very anæmic. An ulcer, probably tuberculous, was disclosed by laryngoscopic examination in arytenoid space. Patient spent the summer at Liberty, N.Y., and had greatly improved, but lost this improvement, and something more, on return. A treatment up to October 17 had consisted solely of creosote, cod-liver oil, and quinine. On October 17, one hundred minims of the fluid and the spray of iodoform and ether were administered, and these were continued daily thereafter until October 20. No change, except that patient said her appetite had much improved ; she also said something was making her nervous ; the bowels were still loose. One hundred and ten minims of the fluid and spray were daily administered, until November 1. Within this period a very great change for the better had taken place ; patient coughed less, slept well, had good appetite, had gained three pounds in weight, expectoration was much less, and there were no night sweats. Tubercle bacilli were still present in the sputa, but in less numbers, and no lung tissue appeared under the microscope. The movements from the bowels had been normal since October 22.

This patient's daily condition continued to improve until November 28, under the daily treatment I have described. Just prior to this date her sputa were examined, and no tubercle bacilli found. She had gained ten pounds in weight, and the amount of sputa decreased until only about one-half ounce daily was expectorated ; her cough grew less and less. On the latter date (November 28) the patient complained of nausea and loss of appetite. These conditions persisted for a week without return of other symptoms, except that the patient lost about three pounds in weight. Feeling that the treatment was causing the unfavorable symptoms, I discontinued it for one week, during which they ceased. During the discontinuance of the treatment she developed an attack of acute bronchitis, and while she was suffering from it I resumed the treatment, giving one hundred and twenty minims the first day and the spray. The following day I gave one hundred minims and spray, and continued that treatment daily for one week, then every other day until the present time (January 4, 1896). She recovered quickly from the bronchitis, regained her weight and about six pounds additional. Microscopic examination shows a

recrudescence of the tuberculous infection. She still has a slight cough; the laryngeal conditions disappeared during the fourth week of treatment. She expectorates at present but very little, and the sputum still contains a few tubercle bacilli. There are no night sweats. Patient is strong, and able to take an abundance of outdoor exercise.

This case is a very good example of a number in my own practice and in that of other observers, where the treatment has accomplished a great deal, and where it promises still more. At the same time, it is a constant struggle in these cases to keep the upper hand of the disease.

The reports which follow I have received from Dr. John G. Perry, of New York city. Dr. Perry's practice makes such demands on his time that he found it impossible to write more fully. As he says in the note which came with the reports:

"If the enclosed cases are of any value to you, pray use them. I have had to write them as they appear, for I had no more time to give. Really, one needs more time than I have been able to find to properly study the results of your solution of pilocarpine-phenyl-hydroxide.

"CASE 1. Miss C., family history good. Had suffered for several years from insufficient sleep, hemicrania, cold extremities, dysmenorrhœa, and menorrhagia. Very anæmic. Not finding uterine disease or displacement, and learning that she had formerly resided at Elizabeth, N. J., concluded that the condition was one of miasmatic origin, and began the use of hypodermatic injections of pilocarpine-phenol (Edson), without adjuncts. As she was not able to visit me daily, there was no regularity in the treatment, but improvement began at once. Menstruation began after the fifth injection, lasted but four days, and was not attended with pain. After the tenth injection, being free of the symptoms complained of, was discharged.

"CASE 2. Miss G., æt. 22. A resident of Long Island. Had long known of her as a victim of insomnia, mental depression, and dyspepsia. In 1894 she appealed to me for relief from the above symptoms, and also from acute indigestion, which indicated gastric catarrh. For this I employed lavage, which gave her immediate relief, but exacerbations occurring whenever the atmosphere became humid, as she found it difficult to come to the city regularly for treatment, she was taught to use it herself. Recognizing the cause to be malarial, and one she had never suspected, as she could not remove herself from its influence, I thought it more charitable not to mention it to her; but after receiving the pilocarpine-phenol (Edson), I sent for her and kept her in town, and gave daily injections of it in fifty-drop doses, hypodermatically. At the end of three weeks she had recovered her health entirely, could sleep through the night, was without headache and without indigestion, and had gained nine

pounds in weight. She returned home December 30, and has remained well since.

"CASE 3. Miss T., æt. 26. Father died of cancer of the stomach. Mother a neurotic. Always delicate, of feeble constitution, and subject to bronchial cough as well as gastric catarrh. At the time of receiving the solution from Dr. Edson, she was preparing to go south, having developed a lesion at the apex of the right lung, with cough, sputa, a constant temperature of $99\frac{2}{3}^{\circ}$ F., and the beginning of a catarrhal form of phthisis. As the patient lived far away, and could come to me only when the weather permitted, I could not carry on the treatment according to Dr. Edson's formula, but on January 9 I gave the twelfth injection of fifty minims. The cough has ceased, temperature fallen to $98\frac{3}{8}^{\circ}$ F., appetite has improved with general strength, and the patient is so much improved that she begs permission to remain at home to continue treatment."

I have used injections of the solution in a number of cases of catarrhal and febricular gripe, occurring from the first week of December, 1895, to January of this year. No bacterial examination was made in these cases, however, and I can only say that they presented symptoms which were referable, in my opinion, only to contagious influenza. Two cases will serve to illustrate its effect in this disease.

CASE 1. S.C.—, aged thirty-two years, residence, Elizabeth, N.J. January 15 this gentleman called at my office, after having had a severe chill. Temperature 103° F.; severe muscular pains, also pains in knee-joints. This gentleman has had severe attacks of gripe, and declares his disease identical with other attacks which occurred during the prevalence of gripe. I administered one hundred and eighty-seven minims of the fluid in a single dose, sent him home, where he remained in the care of Dr. McLane, of Elizabeth, who gave him one injection of one hundred and twenty minims. He was completely well after about six hours. His previous attacks, he says, were not so severe at the outset, but lasted from ten to fourteen days.

CASE 2. Mrs. T. F. G.—, aged twenty-two, had slight chill, followed by extremely severe cough and fever, December 12, 1895. Subcrepitan râles were heard over posterior of both lungs; temperature, $103\frac{1}{2}^{\circ}$ F.; respiration, rapid; pulse, 120, full and bounding. Severe pains over chest from coughing; face flushed; profuse sweats; extreme depression. This patient for three days remained in about the condition I have described. On the fourth day, owing to having slept exposed to a draught, her symptoms appeared suddenly worse. Patient had a slight chill; temperature, taken immediately after its subsidence, was found to be 104° F. I gave a single dose of two hundred minims of the fluid, and this was followed by a subsidence of all symptoms; within

twenty-four hours she was convalescing nicely. I did not repeat the dose of the remedy. She made an uninterrupted recovery, and was able to go out and resume her ordinary habits of life within four days after injection.

It is necessary to say a few words in reference to the permanence of any cure or apparent cure in a case of tuberculous disease. In the first place, patients once having had such a disease must be considered susceptible to its infection and liable to a reinfection and a new attack. Their susceptibility, however, is likely to diminish. Each year, as they grow older, will doubtless effect changes that will render their systems less favorable soils for the growth and development of the bacilli. Second, areas of infected structures may become encysted and remain so for long periods, during which an apparent cure will seem to have taken place, the condition being one which, in fact, will delude the patient only while the encystment endures. Should something occur to break the latter down and free the bacilli a recrudescence of the disease will at once follow. These two conditions, it seems to me, must always obtain, and must be considered not only in the case of the treatment I have just described, but as affecting the permanence of results that may be obtained through the means of any treatment that does not involve the use of a preventive virus.

Time and space have permitted only the description of the treatment with sufficient detail to enable any physician to apply it. Beyond this—and a few references to the theory I believe underlies it—I have not gone. We pride ourselves, and justly, on this side of the Atlantic, on our practicality. As physicians, we ask for results only, and no theory has a living chance among us if results do not follow its application.

It is for this reason that I submit this treatment to the profession. From what I have personally seen in my own practice, and from what has been told or written to me by scientific men for whom I have respect, I confidently believe this method of treatment will afford the best result yet obtained, not only in the cure of phthisis and other forms of tuberculosis, but of other diseases of germ origin. The possible curative range of the fluid is obviously very wide.

It is now in the hands of about fifty physicians, in different parts of the country. I will leave for a subsequent report the descriptive histories of a number of cases included in the following summary.

The total number of cases that have been and are being treated with this fluid which have been reported to me to date is 216. Of these, improvement is reported in 212 cases, and no improvement in 4 cases. Of the improved cases, 23 have been discharged cured; 66 will, in the opinion of the attending physician, be discharged cured; and in 91 cases, while improvement is noted, no definite prognosis can be made yet. In 32 cases the improvement was only temporary. Of those in which no improvement has been noted, 1 has died.—*Medical Record*.

Progress of Medicine.

MEDICINE

IN CHARGE OF

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BRONZED DIABETES.

This affection, described for the first time in 1882 by Hanot and Chauffard, is the subject of a more extended study by Dutournier (*Journ. de Méd.*, October 10, 1895). At the beginning this form of diabetes does not seem to present any special feature. Thirst, polyuria, glycosuria, and great appetite are present in variable intensity. In some cases pulmonary symptoms, such as intense bronchitis, are present from an early date. But at a period somewhat difficult to accurately determine the chief sign of the affection appears—pigmentation of the skin. When this is established, the principal features of the case are, besides pigmentation, diabetes, cirrhosis of the liver apparently hypertrophic in character, and very rapid cachexia. Later on a more or less marked ascites occurs, which may call for drainage of the abdominal cavity. Dryness of the mouth, inflammation of the gums, etc., are even more marked than in the ordinary form of diabetes. The pigmentation of the skin, which forms the salient feature, is described as a uniform lead color or a dark gray, not unlike that seen in argyria. It is uniform in distribution, and rarely are there any points of hyperpigmentation, although there may be a somewhat deeper coloration of the back of the hands and forearms. Pigmentation of the mucous surfaces seems to be very exceptional, only one instance being on record. The writer draws special attention to the constant and rapid cachexia observed in these cases, characterized by rapid wasting, extreme weakness, and inability to do anything. This weakness appears at the

same time as the pigmentation of the skin, and differs from that usually seen in the diabetes by its earlier appearance, its greater intensity, and its rapid fatality. The duration of bronzed diabetes is never long, rarely exceeding eight or ten months, two years being quite exceptional. At the same time it may remit to a slight degree, remission being always followed by more rapid symptoms. Death seems to take place by coma or profound cachexia. The nature of these cases and their relation to the ordinary forms of diabetes is quite uncertain. Post-mortem, marked cirrhosis of liver, accompanied by great accumulation of pigment, pigment granules, sclerosis and pigmentation of the spleen, pancreas, lymphatic glands, and lungs have been found. The kidneys appear relatively healthy. The pigment seems to be of hæmatic origin, and is intravascular, intracellular, and interstitial. The author suggests that in these cases there is a decomposition of hæmoglobin brought about by some as yet unknown cause.—*British Medical Journal*.

CREOSOTE.

From it two very gratifying results are found: (1) It possesses undoubted power to relieve the fœtor of the expectoration in foul-smelling cases of bronchiectasis and phthisical cavities. (2) In small doses (1 to 2 minims thrice daily) it promotes the appetite, and tends to stimulate the powers of digestion. Beyond this it is not found that it modifies in an appreciable manner the ordinary course of phthisis.—*Medical Record*.

SERUM TREATMENT OF CANCER.

At a recent meeting of the Académie des Sciences (*Arch. gén de Méd.*, December), Richet and Héricourt presented a further report on the treatment of cancer by serum. Since their first communication on the subject they had been able to study the effects of the treatment in a much larger number of cases. Their own observations, together with those communicated to them by Reclus, Pinard, Terrier, Faure, Hallopeau, Tuffier, and others, amounting altogether to about fifty cases, led them to the following conclusions: (1) A very marked diminution of pain follows the injections; this effect had not been expected. (2) Cancerous ulcers become clean and assume the aspect of granulating sores, and may even heal over a fairly large extent of surface. (3) Marked shrinking takes place not only in the neighboring tissues and related glands, but in the growth itself. In some cases the development of the disease is checked and the general condition is distinctly improved. To sum up: In four-fifths of the cases a real improvement is beyond question, but a complete cure is not brought

about. After a month or two new cancerous foci appear, and the disease goes on and ends in death. Is the serum specific or not? The authors find it difficult to give a definite answer to this question. The results seen in two cases, however, make them incline to the belief that the serum of immunized animals is much more active than that of healthy ones. In two cases also the serum seemed to have some effect in preventing recurrence, and they suggest to surgeons a trial of a combination of this treatment with the usual operative measures.—*British Medical Journal*.

SYRINGOMYELIA IN A CHILD.

In the *Revue Médicale de la Suisse Romande*, Dr. Thomas relates the particulars of a case of this curious affection occurring in a child, aged six. The patient went to a dispensary on account of severe and troublesome diarrhoea, but the hands were noticed to be peculiar in appearance. He was an only child, born at full term, and the labor was long and difficult. He had had digestive troubles, and a severe burn in 1893. Two years before he was seen—*i.e.*, at the age of four—the mother noticed that he did not seem to have pain when he was burnt. On examination, the child was found to be of medium height, and thin. There was a moderate degree of lateral curvature, with the convexity directed to the left. The hands were large, stumpy, and cyanosed, and in the left hand the terminal phalanx of the index finger had almost disappeared, while those in the other fingers, and also in the thumb, had been altered. Similar changes were present in the right hand. There was at least no marked degree of muscular atrophy in the hands, and none in the legs; but while tactile sensibility seemed to be normal, there was diminution of that for pain, and for the appreciation of heat and cold. The knee-jerks were not obtained; there was no incontinence of urine, but loss of control over the sphincter ani. This case is peculiar and interesting because of the youth of the patient, and the completeness of the clinical features of the case. An unusual feature certainly is the loss of control over the sphincter ani. But if, as seems likely to be the case in some instances, the condition which we designate "syringomyelia" depends upon a developmental defect in the spinal cord, such a defect of control might be due to a cause similar to, if not identical with, that which produces a similar weakness in certain cases of spina bifida occulta.

THERAPEUTICS

IN CHARGE OF

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ALCOHOL IN FEVERS.

(1) If the tongue becomes dry, discontinue; if moister, the drug is doing good. (2) If the pulse becomes quicker, harm is being done, and the contrary if slower. (3) If the skin becomes moister the antipyretic effect of alcohol is obtained, and again good is being done. (4) If the breathing becomes easier continue the drug.—*Armstrong, Medical Record.*

REMOVAL OF TATTOO MARKS.

After asepsis of region the tattoo is remade with a solution of thirty parts of zinc chloride in forty parts of sterilized water; with due precautions no great inflammatory reaction takes place. After a few days a crust forms, which falls off from the fifth to the tenth day.—*Brault, Medical Record.*

ON A PREPARATION OF MILK FOR DIABETIC PATIENTS.

The extremely meagre and distasteful diet of diabetic patients induces me to draw attention to a preparation of milk which I hope may be found useful, and not distasteful.

In the *Journal of Physiology*, vol. xi., p. 473, and vol. xii., p. 164, in recording experiments with caseinogen and casein, I drew attention to a method of preparing caseinogen from milk, which is freed from all sugar (and salts). The following is the method: Add to a pint and a half of milk about 90 c cm. of a 10 per cent. solution of acetic acid. This precipitates a curd-caseinogen. It should be allowed to settle, and the clear fluid siphoned off and distilled water added. After settling, this should be decanted or siphoned off, and the curd should be filtered and well washed with distilled water. If it is then rubbed up in a mortar with some

calcium carbonate, and water is added, and all the caseinogen becomes dissolved, the calcium carbonate soon settles and the milky fluid can be decanted off. The dissolved caseinogen behaves just like milk. If rennet and a calcium salt is added, and the mixture is heated to 40° C., it quickly clots, the caseinogen becomes changed into casein, which precipitates by combining with the calcium salts.

My friend Mr. Martindale, with the aid of his able laboratory assistant, Mr. Lee, has lately made some of this solution of caseinogen, or, in other words, milk without the sugar of milk. They find that the caseinogen settles better after the addition of the acetic acid if the milk is diluted with an equal quantity of water, and they filter and wash the precipitated caseinogen on a calico filter, which allows the washing to be made quicker than in my experiments where I used filtering paper.

On the addition of about 2 per cent. of glycerine to the mixture of caseinogen a not unpalatable form of milk is produced.—*British Medical Journal*.

AN OINTMENT FOR BURNS.

The January number of the *Dublin Journal of Medical Science* publishes the following formula, which is recommended by Dr. Haas in the *Allgemeine medicinische Central-Zeitung*, No. 72 :

Aristol, from 75 to 150 grains.

Olive oil, 300 grains.

Vaseline.

Lanoline, each, 600 grains.

—*New York Medical Journal*.

A cough mixture containing no opiate is that of Warburton Begbie. It is thus given in the *Pharmacopœia* of the Edinburgh Royal Infirmary

R Acid. Hydrocyan. Dil., ʒss.

Acid. Nitric. Dil., ʒiij.

Glycerini, ʒj.

Inf. Quassia ad ʒvj.

Ft. Mist. S. A tablespoonful in a wineglass of water three times a day. It is both a sedative and tonic in cases of phthisis.

A COUGH LINCTUS, WITHOUT OPIATE.

R Acid. Hydrobromic. Dil. ʒj.

Spt. Chloroform., ʒj.

Syr. Prun. Virg., ʒiv.

Mucilag. ad. ʒiiss.

ʒj. Urg. Tuss.—*The Practitioner*.

OBSTETRICS

IN CHARGE OF

ADAM H. WRIGHT, B.A., M.D. Tor.,

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the Toronto General Hospital.

ASSISTED BY

H. CRAWFORD SCADDING, M.D.,

Physician to Victoria Hospital for Sick Children.

EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, December 11, 1895.

Alexander Ballantyne, M.D., president, in the chair.

The So-called "Mittelschmerz." Dr. Haultain (for Dr. J. Halliday Croom) read a paper on this subject. The condition was first described by Valleix, and in our own country many years ago by Sir William Priestley, later by Fashender and Sorel. Dr. Croom gave notes of three cases that had come under his own care, in the first of which the intermenstrual pain began after a very severe attack of scarlet fever, at the age of 14; the second began at the age of 30, was probably due to over-distension of the Fallopian tube with fluid, the pain being associated with the expulsion of that fluid; the third began about the age of 20, and appeared to be of the nature of intermittent hydrops tubæ profluens, and was cured, so far as known, by removal of the appendages. The details of Priestley's four cases will be found in *The British Medical Journal* for 1872. The prominent features were paroxysmal pain in the region of the ovary during the intermenstrual period, in some cases continuing up to the commencement of the flow, in others stopping before then. The normal menstrual flow was scanty, regular, and painless.

The condition occurred under three different manifestations: (1) No external manifestation at all; (2) where the pain was associated with an escape of blood; (3) where the intermenstrual pain was associated with a clear discharge. In the first, probably, ovulation and menstruation did not occur simultaneously, and thickening of the capsule of the ovary caused pain at the dehiscence of the follicle. In the second group the slight flow was probably due to endometritis, and the pain to the passage of clots. In the third, the condition was almost certainly one of hydrops

tubæ, reaching its full development at mid-term. Some, of course, denied the existence of intermittent hydrosalpinx, and predicated a vaginal fistula communicating with the cyst. But either explanation was compatible with the view given.

Viburnum Prunifolium, and its Value in the Treatment of Dysmenorrhœa. Dr. Theodore Sherman read a paper on this subject. He detailed his investigations into botany, chemistry, and pharmacology of the drug. He used the liquid extract evaporated down, and gave in capsules. The drug seemed to diminish reflex pain, to lower blood pressure, and to act as a uterine sedative. It was of great value in certain forms of dysmenorrhœa, in threatened abortions, etc.

Dr. William Craig said he had for years maintained in his lectures its pre-eminent value in abortion, and had used it in his practice.

Professor A. R. Simpson said he had frequently used it with good effect in certain cases of early abortion, and in dysmenorrhœa of non-obstructive forms.

Dr. Haultain thought it was a direct uterine sedative, and was of value in the first stage of labor, in after pains, in dysmenorrhœa with clots, and in abortions where there was pain and a little hæmorrhage.

A Rare Form of Abortion: Expulsion of the Amniotic Sac, with Retention of the Chorion and Decidua. Dr. F. W. N. Haultain, in his paper on this subject, showed three illustrative specimens. Case 1. Amniotic sac of the size of a large orange, no embryo, cast off from a patient believed to be three months pregnant. The decidua and chorion were removed some days later for uterine hæmorrhage. Case 2. Amniotic sac of the size of a large goose egg, containing embryo about the eighth week of development, granular *débris*, cast off from a patient supposed to be three and a half months pregnant. The decidua, with chorion attached, was removed seven weeks afterwards for symptoms of profuse constant watery discharge and irregular hæmorrhages. Case 3. Amniotic sac of the size of a turkey's egg, embryo about the eighth week of development, but he was unable to give a clinical history. These specimens were of interest on account of their want of description in popular midwifery works, and the thus scanty knowledge of the possibility of the occurrence of such a form of abortion. The mechanism of production from the specimens shown undoubtedly pointed to: (1) Pre-existing disease and death of embryo, with, in the first two cases, a continued increase of liquor amnii. (2) Detachment of the amniotic sac from the chorion, thus forming an intrauterine foreign body, setting up uterine contraction by irritation. (3) Rupture of chorion with expulsion of the sac, the adherent chorion remaining attached to the still vascularized and healthy decidua. (4) Occasional continued growth of decidua, lined by chorion. This, when cast off, forms a variety of the so-called carneous mole, and accounts in many instances for the

presumed absorption of the fœtus so commonly met with in these moles. The condition was clinically interesting, as showing how abortion might take place with a minimum of detachment of the decidua, and thus a minimum of hæmorrhage.—*Abstract of Report Brit. Med. Journal.*

POST-MORTEM CÆSAREAN SECTION, WITH DELIVERY OF A LIVING CHILD.

Sudden death of the mother during labor, if the child is living, makes it obligatory upon the attending physician to endeavor to rescue the infant.

Two causes of maternal death are especially fatal to the fœtus. One in traumatism, resulting in severe hæmorrhage to the mother, and the other is an infection, producing high fever and profound intoxication. Sudden death in labor from heart-lesions or from mechanical injury, without great hæmorrhage, gives conditions most favorable for the survival of the child.

The time for accomplishing delivery in these cases is necessarily brief. A recent case is reported by Hoffman, in which in an eclamptic patient he describes the delivery of a living child by abdominal and uterine incision ten minutes after the mother had ceased to breathe. It may scarcely be supposed that a longer delay than this could be borne by the fœtus. Where high temperature is present, the time must be necessarily briefer in which successful delivery may be accomplished.

A recent case may serve to illustrate the foregoing remarks :

The patient, Mrs. L., aged twenty-six years, a primipara, had been in good health during her pregnancy. A few days before her death she had summoned her physician with the complaint of headache, restlessness and nervous discomfort. Shortly afterward, while sitting with her family, she was suddenly seized with convulsions, and soon became unconscious. Her physician was at once summoned, and applied the usual method of treatment for subduing the eclamptic seizures. I saw her in consultation about six hours after the first attack. She was then in deep coma, with a high temperature and labored breathing. Vaginal examination disclosed the membranes unruptured, the cervix obliterated, and the os about three-fourths dilated. It seemed to me possible to rupture the membranes, complete dilatation with the hand, and apply forceps, as the vertex was presenting. While hastily preparing the forceps, the patient was seized with a convulsion, at the close of which she expired. I hurriedly asked whether the family desired that an effort be made to save the child, and was informed that such was their wish. As the patient was a large, stout woman, and her bed so placed that she could not be put into position for the use of forceps without considerable difficulty, the quickest method of delivery seemed abdominal incision. Accordingly, while one of the physicians held a light, the abdomen and uterus were rapidly opened, and a

male child, weighing seven pounds and twelve ounces, was extracted. The child was asphyxiated, but speedily revived and breathed naturally.—Edward P. Davis, M.D., of Philadelphia, in *Medical News*.

THE TREATMENT OF THE STUMP OF THE UMBILICAL CORD.

In his new book on the "Therapeutics of Infancy and Childhood," Dr. A. Jacobi says :

"In wrapping up the end of the cord no oil must be used. Warmth and dryness favor mummification ; moisture and exclusion of air, gangrene. This holds good also for the cord when it is separated from the living baby by an additional ligature, and in the dead. Thus, the former forensic axiom that a dry cord proved life, which prevailed for decades after Meckel had demonstrated its fallacy as early as 1853, is absolutely worthless. Thus, fatty substances and moisture of any kind must be avoided as much as possible. Powdered subnitrate of bismuth, or oxide of zinc, or iodoform, or salicylic acid, one part with ten parts of starch, may be dusted round the insertion of the cord and over the stump daily. The latter application is not necessarily useless (from the point of the view of antiseptis), for the separation of the cord is a gradual one, and not uniform through the whole thickness of the amnion and the three blood-vessels.

"The size of the sore stump and the rapidity or slowness of cicatrization depend upon the thickness of the cord, the intensity of the line of demarcation, and the reactive inflammation. The latter are most marked in vigorous infants. As a rule, the surface is dry a few days after the falling of the cord, and cicatrization complete within twelve or fifteen days after birth. This normal process is, however, disturbed by careless handling, local irritation, and infectious influences. In these cases there is a serous or purulent secretion, and cicatrization may be deferred for many weeks. Under these circumstances local treatment is required. Carbolic acid ought to be avoided, for the newly-born and the infant are easily influenced by its poisonous properties. Solutions of lead, zinc, or alum answer quite well. As before, however, I recommend the powders of zinc oxide, bismuth subnitrate, alum with starch, and salicylic acid with starch, or iodoform. Such measures will always prove helpful ; to omit them in time of erysipelas or diphtheria is unpardonable. Perchloride of iron, or sulphate of iron, must not be used. Under the hard coagulation formed by its application over the whole wound secretions will accumulate, cannot escape, are absorbed, and produce sepsis. I have seen babies die from applications of iron to the umbilical stump, as I know of women dying for the same reason when the hæmorrhages from their uteri or from the lacerated vagina were maltreated in the same manner."—*New York Medical Journal*.

SURGERY

IN CHARGE OF

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WHY IS THE ABDOMEN OPENED IN THE MIDDLE LINE?

The *Lancet*, November 30, 1895, contains an article on this subject by Mr. F. Winson Ramsay. Text-books on abdominal operations, he says, always recommend the linea alba as the proper site for the incision, or, in default, the linea semilunaris. From this fact, he says, one would naturally suppose that there must be some great advantages to be obtained from opening the abdomen in one or other of these situations. On inquiry he finds they are as follows: (1) Vascularity is low in the middle line, and therefore the hæmorrhage is less. (2) There are fewer and less important structures to cut through. (3) There is greater facility of access to all parts of the abdominal cavity. As regards the first, this advantage is imaginary and is really a disadvantage, for, although the abdominal wall is more vascular in other situations, yet there is never any hæmorrhage in incising the abdominal wall elsewhere but what can be easily and speedily controlled, and, moreover, it is this absence of vascularity which tends to delay rapid and permanent healing, and therefore predisposes to hernia. The second is also a disadvantage; for the whole depth of the incision being through tendinous or fibrous layers having a great similarity to one another renders it difficult, especially to young operators, to know exactly the depth of the incision. The third is the only valid argument that can be used in favor of the median incision, and is theoretical rather than practical.

A disadvantage of the median incision is that, should it be necessary to extend it upward, the umbilicus comes in the way, and, as it cannot be rendered aseptic with certainty, it has to be avoided and the incision deflected, while some operators remove the umbilicus entirely. This being so, asks the author, is there any situation in the abdominal wall which offers further advantages without these disadvantages? Mr. Ramsay thinks so, and that the ideal incision for abdominal section is one vertically

through the middle of the rectus muscle on either side, and for the following reasons: (1) Although the parts are vascular there is no hæmorrhage; if the epigastric artery is cut it is easily secured, and this vascularity tends to rapid and efficient healing. (2) There is no injury to the muscle, for after the fascia is divided the muscular fibres are easily separated with a director and retracted. (3) The incision can be made in any part of the muscle and continued up to the ribs or down to the pubes in the same manner. (4) The umbilicus gives rise to no inconvenience. (5) The layers are so well marked that it is impossible with ordinary care to wound the viscera. (6) Access to all parts of the abdominal cavity is just as easy as in the middle line (this, the author states, he has found from experience, while in some cases, where tubal or ovarian disease is known to be only on one side, it is an advantage to have the incision slightly on that side). (7) The scar left looks as if there had been a skin incision only; it does not pucker or dip in like the ordinary scar, and the separate layers are not coherent. (8) Most important of all, if the wound is properly closed the risk of hernia is reduced to the least possible minimum. The best method is to close the wound with silkworm-gut sutures, running through all the layers. These are placed *in situ* and held by forceps; then the peritonæum and posterior layer of fascia are brought together with fine silk sutures, either continuous or interrupted, and then the anterior layer of fascia in the same manner. This brings the muscle firmly together, making the passage through its fibres valvular, restores the natural thickness of the abdominal wall, and prevents coherence of the fascial layers, leaving the abdominal wall in as good a condition as before the operation. Should temporary drainage be essential, the necessary sutures should be placed *in situ* and marked with knots. They can then be drawn and tied accurately when the tube is withdrawn. Even if drainage has to be continued for some time, the track running through a thick wall will close better and more firmly, and be less likely to give way afterward. Mr. Ramsay says that he has adopted this incision during the past two months in five cases—viz., two ovariectomies, one tubal gestation, one pelvic abscess, and one cholecystotomy—and has found that these advantages claimed are real and practical. He is convinced that if some surgeons of higher standing than himself would give this matter their careful consideration this incision would be generally adopted, and that students would be taught that the one place to be avoided in opening the abdomen is the linea alba.—*New York Medical Journal*.

THE DANGERS OF MURPHY'S BUTTON.

A compilation recently published of several cases where the intestine was united by the Murphy button gives interesting data

as to the practical effect of this appliance. In one case, where death occurred with symptoms of obstruction, the opening of the button was plugged with hardened fæces. In another, the button was removed by a second operation from the *proximal* side of the anastomosis. Again, death occurred from intestinal gangrene at the site of the button, possibly from the manner in which it was applied (too close approximation of the edges), or its extreme size and weight. In another case the button was found on the proximal side of the end-to-end resection at the autopsy. In two cases of gastro-enterostomy the button was found after death in the stomach—one patient living ten days, the other two or three months. It is evident from the above that the danger of retention of the button is a real one, notwithstanding the successful cases reported. Its principal claim is that it can be applied rapidly, which is true. This will restrict its use to those cases where the most rapid operation possible is indicated, where speed is required at all hazard, and other risks must be ignored on account of the limited time at the disposal of the operator on account of the condition of the patient. The button itself is an appliance which should be properly made, and the technique of its application thoroughly understood. There can be little question that the use of the larger Murphy button is, in the hands of most operators, safer than anastomoses by suture in cases where the condition of the patient renders haste necessary. But, on the other hand, it is for just this class of cases that the anastomoses by absorbable plates—the bone plates of Senn, or the vegetable plates advocated by Dawbarn—have been devised. Anastomosis by these plates takes very little more time than by the Murphy button, and has the advantages of providing a free opening, and of being free from the danger of remaining on the proximal side of the anastomosis as a foreign body in the stomach or intestine. Again, the danger of producing pressure gangrene of the opposed edges is greater in a mechanical appliance of the size and weight of the button, and its unyielding metallic catch will allow no relaxation of its grip, if once too firmly made. Over the lateral or end-to-end anastomosis by suture alone the plates have the advantage of greater ease and rapidity of application, a fact which renders their use the method chosen in the majority of cases which fall into the hands of the average surgeon. To recapitulate, then: although we must admit that when the patient is capable of sustaining a long operation and the surgeon possesses exceptional skill in dealing with these cases, anastomosis by suture is the ideal method, for the majority of cases, in the hands of the average surgeon, Senn's plates are to be preferred. The use of the Murphy button has been shown to possess inherent disadvantages which should restrict its use to those cases in which it is necessary to hasten in order that the patient may survive the shock of the operation.—*The Boston Medical and Surgical Journal.*

ABDOMINAL SECTION FOR GLÉNARD'S DISEASE.

An interesting paper on this subject by Mr. Frederick Treves appears in a recent number of the *British Medical Journal*. Glénard's disease is a curious abdominal disorder, known also by the name of "abdominal ptosis," and "viscero-ptosis." It depends, in the main, upon a relaxation of the abdominal wall and of the supporting ligaments of the viscera, as a result of which the more conspicuous organs are found to have dropped to a lower level in the abdomen. The affection is usually met with in women. No definite causes have been assigned to it, although some attach an etiological importance to repeated pregnancies, to undue exertion, and to injuries.

It is stated that the right bend of the transverse colon is the first to descend; the stomach is then drawn down, with the result that the pyloric opening is compressed and the passage of food hindered. In due course the rest of the transverse colon descends, the jejuno-duodenal orifice is narrowed, and a further obstruction is offered to the passage of alimentary matters. The whole mass of the small intestine becomes prolapsed, the lower part of the abdomen is prominent, and possibly pendulous, while the upper part is flattened. The liver and kidney become loose, and are described as "floating." Certain it is that the kidney becomes movable, and the liver is found to occupy an unduly low level.

This general ptosis produces general asthenic symptoms, general depression, and general ill-health. There is a sense of "weight" in the abdomen, and a sickening "dragging." There is pain in the back, and a continued sense of weariness. Gastric symptoms are prominent—vomiting, pain, loss of appetite, distress from food, and more or less definite dyspepsia. The bowels are irritated; there may be diarrhoea or constipation. The stomach and intestines are very apt to be found dilated, and pressure upon the bladder may be complained of. The symptoms usually ascribed to movable kidney may be present. Colic is common, and may be now and then acute.

In neurotic subjects these symptoms are exaggerated, and may be rendered extravagant and inexplicable; a condition is engendered which is considered by many to be fitly described as neurasthenia. The affection, at least, is classified among the disorders of the nervous system.

The symptoms are, more or less, relieved by pressing upon the lower part of the abdomen with the two hands, or by wearing a supporting belt. Many patients are unable to move about until they have adjusted their supports or bands.

A case is recorded of a young lady about twenty-two years of age who had been ill for six years. The illness began with an acute abdominal disturbance, which had been ascribed to an ulcer in the stomach or to

ulceration in the small intestine. She was never well after the illness. The symptoms were, in a general way, in accord with those associated with Glénard's disease. There were evidences of continued catarrh of the bowel. Abdominal pain was almost incessant. Vomiting was common, and the vomited matter was usually intensely acid. It sometimes appeared to be composed solely of very acid gastric juice. There were considerable digestive disturbances, and still greater trouble with the bowels. The patient became much enfeebled.

The abdominal troubles were increased by movement and by the erect position. The patient was most comfortable, and, in fact, only comfortable, when she was lying down. The right kidney was found to be "floating," and was successfully fixed by suturing three years after her illness began, and the symptoms which were directly attributable to it entirely disappeared. Every form of diet was tried, she visited many health resorts, was subjected to the Weir-Mitchell treatment by isolation, massage, and special feeding. She became worse rather than better. She had for some time been compelled to wear a belt, and was, indeed, unable to stand or move about without great discomfort unless the belt was in position. The belt was gradually increased in power and substance, until finally it consisted of a large shield-shaped metal plate, to which two steel levers were attached, and by means of which the plate was made to bear pressure upon the lower part of the abdomen. When in position it caused the pulse in the lower limbs to be modified. Without the steel support the patient could not move about.

When examined in the recumbent position the area of the liver dullness was normal, but in the erect position the liver was found to have descended about two inches. The stomach also, and the whole mass of the intestines, appeared to descend downwards. There was a certain amount of resistance, with pain and tenderness over the region of the transverse part of the duodenum. The spleen shared in the general ptosis. The left kidney could not be felt. When in the erect position, much complaint was made of pressure upon the bladder.

The opinion was formed that unless some speedy relief was obtained the patient could not live.

The abdomen was opened in the mid line below the ziphoid cartilage. The liver protruded, and could be dragged down to a remarkable degree. The stomach occupied a lower level than usual. The great omentum was rolled up into a round and rigid cord, and was fixed to a mass of stony hardness in the upper part of the right iliac region. A second incision was made directly over this mass, and it was found to be made up of a collection of old tuberculous glands situated in the mesentery of the ilium. These were removed. Two of them were dry and caseous, and presented

calcareous foci; the third gland was wholly calcareous, and was, indeed, practically a stone. It was about the size of a peach stone. The attachment of the omentum was severed and numerous ligatures applied. The stomach, which was fixed before, could now be drawn up to the upper wound. The spleen was very mobile, and the transverse colon was entirely below the level of the umbilicus. About the descending part of the duodenum there were some vague adhesions. Other slight adhesions implicated the coils of the ilium on the right side.

Nothing unusual was found in connection with the small intestine, the cæcum, or appendix. Three short ligatures were employed to secure the liver in place, in the region of the falciform ligament and umbilical fissure. The most important stitch was passed through the liver near its edge, and penetrated the broad ligament, which afforded a most substantial holding. The stitches above were passed through the fibrous structures of the parieties by the side of the xyphoid cartilage. The two parietal wounds were closed; the operation occupied an hour and a half.

The patient made an excellent recovery. The troubles dependent upon the ptosis vanished. The liver remained perfectly in place. She could walk about without discomfort, and without the aid of artificial support; the gastric symptoms almost entirely disappeared. She still had some intestinal pain, which may have been dependent upon adhesions, or some narrowing of the bowel itself.

The course of events in this case was probably as follows: There was some tuberculous ulceration of the bowel, followed by tuberculous gland disease, with adhesion of the omentum, and gradual dragging upon the stomach and the transverse colon. It would be interesting to know if, in other examples of Glénard's disease, there is an actual causative lesion, as in the present instance.

As an examination of the abdominal organs is usually made when the patient is recumbent, it is difficult to say if this ptosis of the viscera is common. Should the condition be sought for, it may prove to be more common than is supposed. In the next place, it would be desirable to ascertain if the mere dropping down of the viscera must of necessity lead to the train of symptoms described at the commencement of this article, or if it be not possible for a patient to exhibit a degree of ptosis, and yet be the subject of no troublesome symptoms.

LABORATORY NOTES.

IN CHARGE OF

JOHN CAVEN, B.A., M.D., L.R.C.P. Lond.,

Professor of Pathology, University of Toronto and Ontario Veterinary College; Pathologist
to Toronto General Hospital and Home for Incurables.

NECROSIS-PRODUCING BACILLUS.

Source. The bacillus was first obtained in coverslip preparations, lying in considerable numbers in the necrotic tissue, found as the result of inoculating a rabbit subcutaneously with a small piece of a peculiar pseudo membrane removed from the pharynx of a young male cadaver.

Morphology. Coverslips from the necrotic tissue show rather large rods, long, and often sharply recurved, often jointed. From cultures in glucose-agar it is obtained somewhat greater in diameter, but otherwise similar.

Physiology. Anærobic. Grows in a deep stab in glucose agar, as minute spherical, semi-translucent, isolated colonies, increasing little in size after the first day. Neither spores nor motility has been observed. Stains readily with aniline water and gentian violet. Does not produce gas or glucose-agar. Grows at 37°C, not on gelatin in cold. Capable of transference from tube to tube.

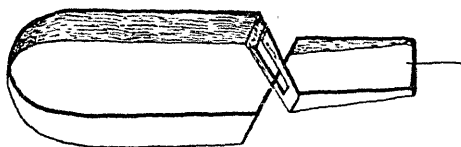
Pathogenesis. The necrosis resulting from the inoculation of the piece of pseudo-membrane subcutaneously, above referred to, affected but a small area of the subcutaneous fascia. It descended through the sheath of the erector spinar muscle and extended anteriorly and posteriorly, destroying the muscle tissue and converting it into a white, soft homogeneous mass, confined by the sheath.

In a guinea pig a similar necrosis had occurred at the site of inoculation, but more limited, probably on account of the early stage in which the guinea pig was killed for examination. In a third animal, a rabbit, inoculated from the guinea pig subcutaneously, near the spine, a firm ridge could be traced from the seat of inoculation downward to the middle line of the abdomen, from which point it could be traced forward and backward. Examination showed that the vertical ridge and its horizontal extension presented a necrotic area, in which, as in the other animals, the necrosed tissue was white and completely disorganized. At the linea alba,

loculi, containing almost clear fluid, occurred, and in the neighborhood of the groin there was considerable œdema. No secondary lesions were discoverable in any of the so far experimented-on animals. W. H. HILL.

COVER-SLIP FORCEPS.

Although the cover-glass forceps of Cornet and various modifications of these have served a good purpose, they have been defective in some respects. The jaws have been made to grasp the glass at such an angle that staining fluids readily run down the arms of the forceps, and reach the fingers. Moreover, they have been so constructed that sideways slipping, with consequent upsetting or breaking of the cover-slip, is frequent. The forceps, of which the accompanying cut is a representation,



appears to overcome these difficulties. The grasping jaws strike the glass exactly at right angles, and being at least half an inch in length no escape of stain is possible. Side slipping is prevented by cutting a slot in one blade and making the other to play in it. These forceps are made from my designs by J. Stevens & Sons, Wellington St. west, Toronto.

JOHN CAVEN.

A NEW BACILLUS ISOLATED FROM THE HOUSE FLY.

In the course of some experiments upon the house fly as a medium of wound infection, a number of forms of bacteria have been isolated, and amongst these one in particular, which appears to be a new form, and which we have studied in some detail and now report.

Among the problems attacked was that relating to the bacterial inhabitants of the alimentary tract of the fly. The technique was simple. The fly was disinfected by ether or alcohol, followed by flaming, and the abdomen opened with sterilized scissors, and the alimentary tract withdrawn with fine-pointed forceps, or else the posterior part of the body was seized with sterilized forceps, and the gut pulled out. The mass, excluding the rear part of the body, was dropped into bouillon, and incubated at 37° C. In twelve hours the tubes were always turbid. Gelatine and agar plates were poured, and five different forms ultimately separated, amongst them that now described. The flies investigated were taken

from a number of different localities, and this form was found in seven out of nine. We have labelled it fly bacillus No. 1.

DESCRIPTION OF ORGANISM.

Where found : In alimentary tract of house fly.

Form and arrangement : Bacillus ; short ; round ends ; length, 2 - 8 m ; width, 7 - 1.0 m . Occurs as single, pairs, short threads.

Mobility : Very active.

Temperature relations : Grows well from 22° C. up to 42° C. opt. about 36° C.

Rapidity of growth : Bouillon turbid in twelve hours at room temperature ; pellicle forms in twenty-four hours.

Spore formation : Absent.

Relations to atmosphere : Aërobic ; facultative anærobic.

Gas production : Produces a large amount of gas in glucose media.

Liquefying power : Does not liquefy gelatine.

Color production ; Produces yellow pigment on agar and gelatine.

Pathogenesis : Non-pathogenic for guinea pig and rabbit when injected subcutaneously. After intraperitoneal injection the rabbit loses flesh for a time, and becomes inactive ; recovery after a few days.

Color reactions : Stains readily with anilin ; decolorizes in Gram.

CULTURES.

(1) Bouillon. Cloudy in twelve hours ; develops no color at any period. White pellicle, which breaks up readily, and falls on shaking, forms on surface in twenty-four hours.



FIG. A.

(2) Gelatine. Plates : Surface colonies round, white changing to yellow, smooth, moist, even ; beneath surface a peculiar asteriform growth, formed of fine lines radiating from centre ; (see Fig. A.) no color, no liquefaction ; colonies resemble in form the stellate veins of surface of kidney.

Tubes.—*Stab*: Surface growth early; gradually developing yellow color; stab tapering with fine hair, like processes growing from its sides; no liquefaction.

Slant: An even band develops rapidly and evenly in line of streak inoculation; fine hair, like processes spread from sides of it; yellow color develops.

(3) Agar. *Plates*: Surface colonies round, small, moist, yellowish tint, definite sharp margins; beneath surface colonies resemble teased out bunches of moss (See Fig. B.), not more compact in centre than at periphery; branching coarser than on gelatine, and not so sharply defined; yellowish tint.



FIG. B.

Tubes. *Stab*: Surface thick, dead white, nothing characteristic; stab white, same size throughout; small fuzzy bunches projecting from sides of stab.

Slant: Thick, whitish, moist growth, the streak becoming oval in form, and the edge deeply indented like a comb; yellow color develops slowly. Growth invades substance of medium over whole surface for a depth of about one-eighth of an inch.

(4) Glucose agar. Tubes.—*Stab*: Surface growth strong; yellow color marked; gas produced abundantly.

(5) Glycerine agar. Tubes.—*Stab*: Growth more feeble than on plain alkaline agar, but otherwise the same.

Slant: Dead white; no color develops; margin shows branching; where surface is broken root-like branches invade.

(6) Potato. A dull yellow, heaped-up growth; indefinite margins; yellow color turns brown with age.

(7) Litmus milk. Turns red at first; coagulation occurs; red color disappears, but returns when tubes are kept in dark cupboard for a time.

The peculiar form of the colonies of this organism at once separated it out from all others in the plate. The forms described are constant, plates having been poured at intervals through a considerable series of generations. In many respects it resembles some of the proteus forms already described, but seems to differ in some features from all. Klecki, of Cracow, described a bacillus in *Annales de L'Institut Pasteur*, No. 9, Sept. 25, 1895, which he obtained from the intestine of a guinea pig, and cultures of which resemble somewhat those of the rod from the fly.

The fly bacillus shows a high degree of vitality cultures upon agar, having survived for a period of over six months in the laboratory cupboard.

JOHN CAVEN, M.D., AND WILLIAM GOLDIE.

REPORT OF BACTERIOLOGICAL EXAMINATIONS IN CASES COMING TO POST-MORTEM TABLE, TORONTO GENERAL HOSPITAL.

CASE 1. Endocarditis septica. Cultures from perforated flap of mitral valve yielded the staphylococcus pyogenes aureus and two unidentified bacilli. Infarcts in spleen and kidney proved sterile.

CASE 3. Lobar pneumonia following typhoid. Coverslips and cultures gave a coccus, resembling micrococcus lanceolatus, in the lung; cultures from spleen gave a bacillus resembling bacillus typhi abdominalis, and corresponding to it in ordinary tests.

CASE 4. Septic pneumonia, secondary to suppurative osteomyelitis of os calcis. Pure cultures of staphylococcus pyogenus aureus were obtained, ante-mortem, from discharge from os calcis. Intravenous injection of one culture, along with sterile potato scrapings, gave rise to general infection in a rabbit, with abscess formation in heart wall and in kidneys (cortex and medulla). Pure cultures were then obtained from heart's blood, spleen, and abscesses of heart and kidneys. Pure cultures of staphylococcus pyogenus aureus were also obtained, post-mortem, from patient's spleen and kidneys, from a bronchial gland (apparently healthy), and from abscesses in lungs.

H. W. HILL.

Editorials.

OUR SELECTED ARTICLES.

IT has been our custom, especially during the last two years, to publish certain selected articles which, on account of their rare merits, were well worthy of reproduction in THE CANADIAN PRACTITIONER. We are glad to know that many, if not all such, have been highly appreciated by our readers. Although these have been properly called "selected articles" in our table of contents, and in their proper section in the body of the journal, we regret very much that due credit has not always been given to the exchanges from which we have "selected." In our January issue we republished an article on "Neurotic Vomiting," by Dr. Robert T. Edes, of Boston, Mass., but neglected to give the name of the medical journal to which we were indebted for the same. We desire now to state that this article was first published in *The American Journal of the Medical Sciences* for September, 1895.

In the same issue we republished an article on "A Study of the Infectiousness of the Dust in the Adirondack Cottage Sanitarium," by Dr. Irwin H. Hance, New York, and made a similar omission as to the source from which we obtained it. Dr. Hance's article was first published in the *N. Y. Medical Record*.

VAGINAL vs. ABDOMINAL SECTION.

WE publish in this issue an abstract of an interesting paper on the subject of "Vaginal versus Abdominal Section," read by Dr. W. M. Polk before the general meeting of the New York Academy of Medicine, and published in *The Medical News*, January 4, 1896. We give, also, a portion of the discussion which took place at the same meeting. At the last meeting of the American Gynæcology Society, May, 1895, Dr. Charles Jacobs, of Brussels, read a paper on this subject, giving his experience in 403 vaginal sections, with twelve deaths, *i.e.*, with a mortality of 2.9 per cent. He expressed the opinion that vaginal section was indicated in the following conditions—Uterine cancer, fibroids of the uterus,

extra-uterine pregnancy, total genital prolapse, inflammatory diseases of the appendages, chronic and incurable diseases of the appendages and of the uterus, diseases of the uterus after abdominal operations. (*The American Gynecological and Obstetrical Journal*, June, 1895.) This paper appears to have created a great deal of interest, and many are the discussions on the subject which have taken place since it was read. Vaginal section, as a substitute for abdominal section, has been extensively practised since 1892 (when it was proposed in Brussels) by Jacobs, Péan, Pozzie, Ségond, Martin, Laudan, and others on the continent, with good success. On this continent, Polk, of New York, may be fairly considered the pioneer in this work, and, probably, its most able exponent.

As usual, in discussions on gynecological surgery in the United States the various advocates of the two methods, in many instances, make remarkably divergent statements. For instance, Winter, with the object of ascertaining the frequency of ventral hernia after abdominal sections, watched 1,000 cases, and found that under the "ordinary method" of suturing the incision hernia followed in from 23 to 30 per cent. of the cases. Dr. Noble, at a recent meeting of the Philadelphia Obstetrical Society, said that in 200 abdominal operations, in which he had sutured the abdominal with non-absorbable sutures, he knew no case where hernia followed. We think most of our surgeons in Canada will, for a time at least, continue to prefer the abdominal, rather than the vaginal, section in the majority of cases. However, the work of Jacobs, Polk, and others, who have become experts in vaginal operations, will be carefully observed; and it is quite likely that time will show that the vaginal route is the proper one in a certain proportion of cases. We think that the weight of evidence thus far brought forward goes to show that that proportion will be less than one-half.

THE EDSON CURE FOR PHTHISIS.

WE reprint in this issue, from the *Medical Record*, Dr. Cyrus Edson's paper on his new discovery in the treatment of phthisis and other microbic diseases. We have recently seen Dr. Edson, and, from a personal interview, can assert that he does not claim that aseptolin can, or will, cure advanced phthisis, in which the greater portion of a lung has become useless. But he has cases of very far advanced phthisis where the treatment has held the disease in check, and the bacilli have disappeared from the sputum. It is in the cases of acute infection, when taken early, that he expects most, and, as one can see from a perusal of the article, his basis of treatment is on a principle that takes nature's action for its starting point. In certain advanced cases, where destruction.

has not been extensive, a cure may be looked for, and the profession and the public generally will look forward to the results of treatment by this new method.

We have been favored with some of the aseptolin, and are at present using it in a few cases, and will give a report of our results shortly.

It is necessary to warn the profession against using any spurious preparation and expecting good results. Aseptolin will very shortly be placed on the market, and will have the stamp of Dr. Edson's laboratory, which will be a certificate of its genuineness.

THE ROENTGEN "X" RAY PHOTOGRAPHY.

IT in no way discounts Roentgen's discovery to say that Hertz and Lenarder, three years ago, announced that a sensitized plate was affected by rays coming from an aluminum window in a tube of high vacuum. These scientists almost discovered what Roentgen recently demonstrated.

When Prof. Roentgen announced to the world, at the beginning of this year, that he had succeeded in discovering an "X" ray that would penetrate certain opaque objects and not others, and affect a sensitized plate, so that the image of the impenetrable object could be defined, it was at first looked upon with an amount of incredulity that was not astonishing.

He has demonstrated that it is possible to photograph through the flesh of the hand, foot, leg, etc., and see only the bony skeleton developed on the negative, unless there should be some foreign substance like a bullet, needle, glass, etc., present in the limb which will be made manifest.

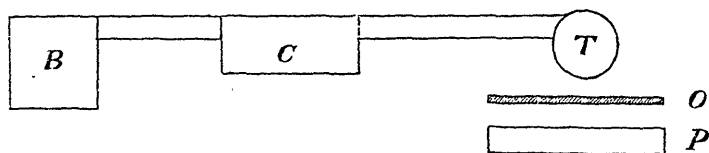
The lull in experimenting at the present time in America and England is occasioned by an absolute dearth of Crookes tubes, the supply having been exhausted within a few days after Roentgen's first announcement. The successful result can only be obtained from tubes of very high vacuum, and these can only be made by glass-blowers experienced in this particular branch. No such blowers are to be found in America.

The University of Toronto, amongst its quantity of Crookes tubes, was fortunate, indeed, in having a few that had the necessary shape and quality, and with these few Messrs. Wright and Keele, of the School of Practical Science, and Mr. McLennan, of the Physics Department of the University, have succeeded in making the greatest advance yet announced, and that is in reducing the time of exposure from minutes to seconds—a perfect picture having been accomplished in three seconds. The time for taking a hand, however, yet remains at several minutes.

We are experimenting, and hope at a very early date to show our

readers some of the practical uses that these new rays can be put to, and prove its practical applicability in medicine and surgery.

For the benefit of our readers who may have some erroneous ideas about the position of the tube, object, and sensitized plate, we append a rough diagram, and also point out that it differs from ordinary photography in a very essential particular, inasmuch as neither camera nor lens is used with the "X" rays. The sensitized plate is not exposed to these rays, as it is too light in ordinary photography, but these penetrate some object that is opaque to white light, yet quite transparent to the "X" ray, such as the cover of an ordinary plate-holder, black paper, etc., etc.



- B** is the battery from which the current is derived to pass through
C the induction coil, which is connected with
T the Crookes' tube. This tube is held in proper position by insulated connections, so that the "X" rays from the cathode pass through
O which is the object to be photographed, the object resting on
P which is a box, or plate-holder, having within it a sensitized plate.

ST. JOHN AMBULANCE ASSOCIATION.

A MEETING was held in St. George's Hall, Toronto, February 5, for the purpose of organizing a "Local Centre" of the St. John Ambulance Association. The gathering was large and representative in character, including prominent clergymen, physicians, military men, and charitable ladies.

Dr. G. Sterling Ryerson, the general secretary and medical director of the order for Ontario, explained that the St. John Association had been founded in 1877 by the Order of St. John of Jerusalem in England, and that in 1888 a charter was granted by the Queen, who is declared to be the Sovereign Head and Patron.

The objects of the association are: The instruction of persons in rendering first aid in case of accidents or sudden illness, and in the transport of the sick and injured.

The instruction of persons in the elementary principles and practice of nursing, also of ventilation and sanitation, especially of a sick room.

The manufacture and distribution by sale or presentation of ambulance material, and the formation of ambulance depots in mines, factories, and other centres of industry and traffic.

The organization of ambulance corps, invalid transport corps, and nursing corps.

And, generally, the promotion of instruction and carrying out works for the relief of suffering of the sick and injured in peace and war, independently of class, nationality, or denomination.

The method of instruction is a series of lectures, some for men only, some for women only, and the others for men and women. The subjects will include "First Aid to the Injured," and "Nursing and Hygiene."

The officers elected were :

Hon. President—Lieutenant-Governor Kirkpatrick.

President—Judge Kingsmill.

Secretary—Dr. C. R. Dixon.

Treasurer—Mrs. Wm. Boulton.

Committee of Management—Judge McDougall, Hon. R. M. Wells, G. R. R. Cockburn, M.P., Lieut.-Col. Davidson, Lieut.-Col. Mason, Capt. Law, R.N., Ald. Jas. Scott, S. Nordheimer, D. R. Wilkie, Judge Kingsmill, Walter Barwick, Herbert Mason, J. L. Hughes, Dr. A. H. Wright, Dr. G. A. Bingham, J. T. Small, Barlow Cumberland ; Mesdames Kirkpatrick, Henry Cawthra, G. R. R. Cockburn, G. D. Dawson, G. W. Yarker, Grant Macdonald, Forsyth Grant, Wm. Boulton, J. I. Davidson, McLean Howard Ryerson, J. G. Hodgins, Melfort Boulton, Jas. Crowther, C. Egerton Ryerson, Mandeville Merritt, J. D. Hay, Wm. Mulock, Misses Catherine Merritt Wilkie, Margaret Greig Dixon.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE Local Executive Committee have drawn up a scheme of organization for the meeting of this association, to be held in Toronto in 1897. They desire all who are interested in the meeting to join the association. We take the following from a circular recently issued by the committee :

"Under the rules of the British Association, it will be necessary for every member of the Citizens' and all other committees to become members of the association.

"Annual subscribers pay, on admission, the sum of \$10, and in each following year the sum of \$5. They receive *gratuitously* the reports of the association for the year of their admission, and for the years in which they continue to pay *without intermission* their annual subscription. By omitting to pay this subscription in any particular year, members of this

class (annual subscribers) *lose for that and all future years* the privilege of receiving the volumes of the association *gratis*, but they may resume their membership and other privileges at any subsequent meeting of the association, paying on each such occasion the sum of \$5. They are eligible to all the offices of the association.

“ Associates for the year pay, on admission, the sum of \$5 ; they do not receive *gratuitously* the reports of the association, nor are they eligible to serve on committees of the association, or to hold any office.

“ The money derived from the subscriptions of members and associates belongs to the association, and is not available for any of the purposes of the Local Executive Committee.

“ The Local Executive Committee have power to elect members of the association for the year 1897. The fee or subscription for membership will be only for 1897.

“ A list of names has been prepared to form a Citizens' Committee, which will be enlarged in the future.”

We understand that the officers and members of the association in Great Britain are taking a deep interest in the meeting, and will put forth great efforts to make it a success. His Royal Highness the Prince of Wales will be asked to accept the presidency. If he cannot attend, it is understood it will be offered to the Duke of York, Mr. A. J. Balfour, or Mr. Joseph Chamberlain ; and it is expected that either Mr. Balfour or Mr. Chamberlain will accept. Mr. Griffiths, the secretary of the association, will come to Canada in May to confer with the Local Executive Committee.

Meetings of Medical Societies.

TORONTO MEDICAL SOCIETY.

THE regular meeting of the Toronto Medical Society was held February 7, 1896, Dr. Oldright presiding.

Dr. F. N. G. Starr reported a case of

BRONCHIECTASIS

in a woman aged 24, the disease being traceable back to an attack of typhoid fever six years previous. The cough, which was worse in the morning, was accompanied by an offensive expectoration. Opposite the eighth dorsal spine, three inches from the spine, cavernous breathing could be detected, which covered the size of half a dollar. An attempt was made to aspirate the cavity, but no fluid was obtained. An opening was made through the thoracic wall, but the cavity was not reached. The pleura was free. A second operation a little higher up was done. A needle was introduced, but nothing withdrawn but a little blood. Creasote was prescribed, and inhalations of oil of peppermint.

Dr. McPhedran, on his first examination of the case, inclined to the diagnosis of empyemæ. An area over the lower part of the chest was extremely flat, and the respiratory sounds were quite absent at times. After coughing, the respiratory sound returned, being strongly bronchial in character. The note, even then, was dull. The essayist was quite at a loss for an explanation of the phenomena. Perhaps if the operation had been done higher up more information would have been obtained. The position was very low for a bronchiectic cavity.

Dr. Price Brown referred to the two varieties of bronchiectasis—the ampullar and the dilated. In the case related, he thought probably an abscess cavity had formed, instead of there being an enlarged bronchial tube. In bronchiectasis the lining membrane was smooth and the cartilaginous portion of the tube was absorbed, as well as the mucous membrane. The enlargement would continue as long as the pressure on the inside of the wall was kept up. It was said to be a very rare disease. He thought this could not be said with regard to the tubular variety. Of

course, it was difficult to positively state that, because the patients live a long time, and it was rarely that a post-mortem was made subsequently, especially in private practice. He had seen a good many of such cases while in general practice in a town where a great deal of grinding and general manufacturing was done. They had what he took to be the tubular form of the disease. Patients suffered from chronic cough, which would abate until another cold would come. The expectoration was very profuse. In the examination of the chest one would find in the lower part behind bronchial breathing and large crepitation. This he attributed to the fact that they gave a history of sleeping on the back, the only position in which they could lie comfortably. They had little fever. The disease would last from five to fifteen years before they would succumb. The cough was not attended by putrid expectoration, as the disease was largely of the tubular variety. He related the history of an outbreak occurring in a manufacturing district where creasote was made, and how that when patients suffering from bronchiectasis went to work in the creasote manufactory their cough became cured. Personally, he had found creasote of much value. He had administered it in the form of carbonate of creasote one-half a dram three times a day. He thought creasotal was of much value.

Dr. Starr said that he was unable to explain why the note was flat over the cavity. He said that the material expectorated was largely mucous; so that the mucous membrane must not have been destroyed.

Dr. Doolittle read a paper on

HYSTEROID.

On November 5, 1895, he was consulted by Mrs. D. about her daughter, aged 22, who was suffering from nervousness and headache. The headache began in the morning before rising, and increased during the day. It continued in severity until it became unbearable, when she would be seized with a spasm, which lasted three or four hours. She would then fall asleep with exhaustion. The family history was good. She worked in a departmental store near a heater, and was exposed to cold draughts from the door. Spasms at first appeared every one or two weeks, then more frequently, and at last twice a day, each lasting for several hours. She had a neurotic appearance. Examination of the eyes showed the presence of myopia and astigmatism, which were corrected by suitable glasses. The headache lessened; the spasm grew less violent. Some time after he was called very suddenly to see her in a convulsion. The patient, hearing that he was entering the door, screamed out, "Don't let Dr. X. in." (She had been under treatment from Dr. X. just previous to this time.) This was the first time she had spoken during a fit. The doctor found two sinapisms over each ovary, which the young woman had

tried to remove with hot water on account of the pain. The cloth gave way, but left the material upon it on the abdomen. Dr. Doolittle prescribed a valerianate and a bromide. The patient immediately became quiet. The next morning he was called to see her again in a convulsion. Dr. Graham was called in consultation, to whom the essayist suggested the propriety of trying the effect of suggestion. Spasms at this time were lasting from eight to twelve in the morning, and four to eight in the afternoon. She was in the position of opisthotonus. Although it was about 10.30 a.m. the remark was made that as it was now about twelve o'clock she would soon come out, and in a few minutes she became rational. Peripheral anæsthesia was general. Dr. Doolittle informed the mother that they had concluded that the daughter could be rapidly and permanently cured; that he would come the next morning shortly before eight, and administer treatment which would check the fit. Next morning he used the galvanic current for ten minutes. One electrode was placed on the neck, the other on the sacrum. This effectually prevented the spasm from occurring. As the time was too early in the morning for the doctor's convenience, and the trouble would not occur till ten o'clock the next day, he said he would be around before that time to check it. Next day, in the afternoon, while she was again suffering, he was called; administered electricity, and said that she would soon return to consciousness, and made certain sighing respirations which he told the mother she would notice when the patient was coming to, which was the case. Besides the suggestion, the electricity and the valerianate of zinc and nux vomica were given. A complete cure resulted. The doctor explained that he believed the condition resulted primarily from the eye strain. The correction of the optical defect lessened the trouble, but the hysteroid habit was so thoroughly established that additional means were necessary to check it.

Dr. Primrose read a paper on

THE SURGICAL TREATMENT OF EMPYEMA.

The essayist maintained that pus in the pleural cavity called for surgical interference, and the earlier the better. The means used should secure a complete evacuation of the pus, and prevent a reaccumulation of it. Neglect of this precaution would produce serious consequences. In early cases a simple incision of the chest wall may be employed, the site of the incision being determined by the position of the pus. Between the sixth and seventh ribs, in front of the posterior fold of the axilla, was the favorite place. Another position was between the eighth and ninth, external to the line of the angle of the scapula. Marshall advocated opening in the fifth space, on the ground that here empyemata tended to point only. Dr. Primrose questioned this. In considering the place for incision, one should remember that the cavity tended to close from below

upward ; therefore an opening from the lowest part was not desirable. He then described the technique of the operation, and called attention to the fact that one should be careful in raising the arm of that side, as it retracted the skin, so that after it assumed the natural position a valvular opening might be made. It was advisable not to wash it after the operation. A tube neither too rigid nor too soft should be used, and should not project too far in, as it created a certain amount of irritation, which tended to make the discharge persistent. Hæmorrhage was not likely to occur if the intercostal artery were severed straight across. If free drainage could not be effected by simple incision, one must then proceed to a resection of the ribs. In children the pleura seemed to separate more readily than in the adult, who more often had a transudate or serous effusion. In children aspiration cures much more frequently than in the adult. In the children the intercostal spaces were so narrow that it was almost impossible to effect sufficient drainage without resecting a portion of the rib. In support of this statement he quoted cases.

CASE 1. Child, four years of age ; illness of two weeks before entering the hospital. On the left side there was dullness, breath sounds absent below, tubular above. Sixteen ounces of pus aspirated from the sixth inner space. Temperature fell to normal. Child seemed to improve much, but the pus accumulated, and the chest was opened and drained. Recovery followed.

CASE 2. Child had been ill two weeks before admission. Dr. Thistle had seen the case, and aspirated on November 10, drawing off ten ounces of thick, creamy pus. The temperature went down, but rose again very shortly. The essayist resected one and a half inches of rib, evacuated large quantities of stinking pus. Drainage and recovery.

A patient was shown to the members, and a small sinus could be seen from which a little pus was escaping. The reader contended that if operative steps had been taken earlier the child would not still be suffering. The history was this : The child was admitted to Victoria Hospital, June 16, 1894. Had been suffering two months. Five weeks previous had been operated on and a tube inserted ; but not receiving proper home attention, and disobeying the advice of the surgeon, the tube came out and the pus reaccumulated. There was an extensive area of dullness of the left chest. Dr. Primrose made an incision along the fifth rib—three inches. Periosteum was peeled off, the intercostal artery secured, and a portion of the rib resected; the pleura was thickened, and a large quantity of nasty pus evacuated. The cavity was scraped out and sterilized. Patient did but fairly during the summer. A second operation was performed, when the recovery seemed to take place. But during the months which have elapsed since it has broken out two or three times, showing that the trouble still exists to a certain extent.

In long-standing cases, where the lung would not expand nor the chest collapse to obliterate the cavity, Estlander's operation was necessary. It consisted in removing enough of the ribs to allow the chest wall to collapse and obliterate the cavity. Gould had removed as much as fifty-four inches of rib in such an operation. A flap operation was usually done. The essayist pointed out the comparative merits of various incisions. He preferred the vertical. He outlined the different methods employed by different surgeons in removing the ribs. He related the history of a young man, aged 23, who had suffered from pneumonia, followed by pleuritic effusion. Aspiration had not relieved the condition. Abscess burst into the bronchus, and the patient became exceedingly miserable.

When the patient was lying down the cough and expectoration were troublesome, but on the patient standing up they would mitigate. Dr. I. H. Cameron did Estlander's operation. The patient took chloroform very badly, and was in a very weak state when the operation was done. A splendid recovery took place, however, the patient gaining twenty-one pounds in twenty-one days. Dr. McPhedran, who had seen the man on the date of this meeting, and had examined his chest, stated that the expansion of the chest was very fair. He considered the practical results of these operations extremely satisfactory. He had not seen satisfactory results from aspiration, but believed that the incision or resection and drainage should be performed at once. He spoke of the great difficulty of diagnosing pneumonia and pleurisy in children, as the signs were almost identical in the two conditions. The purulent pleurisy, he believed, instead of being a sequela, began at the same time as pneumonia. The leucocytic exudation was very prolific in children, although it might appear only to be a serous pleurisy at first.

Dr. I. H. Cameron upheld John Marshall's site of making the incision. In these cases he preferred the vertical incision, contrary to the old surgical rule of making the incision parallel to important structures. This greatly facilitated drainage. For a drainage he recommended a short silver tube, through which a soft rubber one might be passed. A tube projecting into the cavity acted as a foreign body, and, as Mr. Treeves had pointed out, was a travesty on the first principles of surgery. He pointed out the dangers of irrigation at first, on account of the presence of an epileptoid zone in the pleura. Of course, in old standing cases the pleura had been accustomed to irrigation, and there was not the same danger. He thought he had seen cases where a single operation had sufficed to effect a cure, but he agreed that the more radical operation was to be preferred.

He did not think it was necessary to remove the portion of rib from its periosteal envelope, and afterwards remove the periosteum. Both

could be removed quite readily together. It might be said that there was greater danger of hæmorrhage by doing this, but he doubted it. He drew attention to the pyogenic powers of the pneumococcus, which would account for the co-existence of empyema with pneumonia.

Dr. Reeve, in drawing attention to the different kinds of pus, said that there might be some analogy between its formation in larger cavities with that in smaller ones. It was often found in hypopyon; a considerable quantity of pus would completely disappear in a short time by the process of chemotaxis. Then there was another variety in which the pus was septic. These cases, unhappily, did not proceed so favorably, and very often required opening and drainage, and, perhaps, irrigation of the anterior chamber.

Dr. Carveth, Dr. Oldright, and Dr. Harris also discussed the paper. Dr. Primrose closed the discussion.

The meeting then adjourned.

Book Reviews.

DON'TS FOR CONSUMPTIVES ; OR, THE SCIENTIFIC MANAGEMENT OF PULMONARY TUBERCULOSIS.

The above is the title of a book which, under the authorship of Dr. Charles Wilson Ingraham, will soon (about February 10) be issued by the Medical Reporter Publishing Co., of Rochester, N.Y.

The complete work of thirty-five chapters is devoted exclusively to the general management of pulmonary invalids, no reference whatever being made to drug treatments.

The object of the author is to supply the physician with a practical work, and, at the same time, by eliminating technical terms, reduce the text within the easy comprehension of the intelligent patient. With this book in the hands of his patient the physician will be relieved of a multitude of details which attach to the successful management of such cases. Price, \$1.75.

MANUAL OF LIFE INSURANCE EXAMINATIONS. By James Thorburn, M.D. Edin., Emeritus Professor of Pharmacology, University of Toronto ; Consulting Surgeon, Toronto General Hospital ; Medical Director, North American Life Assurance Company, etc. Second edition, Toronto, 1895.

This is the second edition of this very useful and interesting manual, the first of which was published in 1887. The work, in the first place, was specially prepared for the convenience of the medical examiners of the North American Life Assurance Company ; but, we understand, many examiners in various other life insurance companies have used it with profit. It contains a great deal of valuable information, given in a plain and concise way, and ought to be especially useful for examiners who have had only limited experience. This second edition has been carefully revised and largely amended. We think it would be well for the publishers to make arrangements whereby any members of the profession could procure the book. The printers have done creditable work, but a more substantial cover would be desirable in a future issue.

A MANUAL OF THE PRACTICE OF MEDICINE. By George Roe Lockwood, M.D., Professor of Practice in the Women's Medical College of the New York Infirmary, etc. Philadelphia : W. B. Saunders.

The author states that in this manual it has been his aim to present the essential facts and principles of the practice of medicine in a concise and

available form. In the arrangement of the subject-matter the classification of Osler has been adopted.

The pages upon the treatment of diphtheria and its complications are very good. He devotes considerable space to the antitoxin treatment, and gives some specific directions regarding the injection of the serum. No mention is made of any ill results following such injections, and one would infer from the concluding paragraph on treatment that Dr. Lockwood approves of the systematic use of the antitoxin in all cases.

This work, of over 900 pages, is very neatly gotten up, and well printed. Although it seems somewhat large for a concise work, still, we think that nothing superfluous will be found in its pages. The author cannot be held responsible for the largeness of the field he has to cover. In our medical schools manuals do not find as great favor with the students as in some other schools where the larger text-books are neglected. We have no doubt that students who use manuals will find this one very satisfactory.

Medical Items.

DR. W. A. DIXON, who practised for a time in Toronto, has settled in Chatham.

DR. S. G. T. BARTON, of Toronto, has removed from Bloor street to 16 Charles street.

DR. D. GIBB WISHART, of Toronto, has recovered from a severe attack of typhoid fever.

DR. WESLEY ROBINSON, of Markham, has been appointed associate coroner for the county of York.

DR. F. H. JOHNSTON, of Burford, has been appointed an associate coroner for the county of Brant.

DR. G. P. SYLVESTER has purchased Dr. Sheard's interest in *The Canada Lancet*, and will be its business manager.

DR. R. K. KILBORN, superintendent of the Kingston General Hospital, has resigned, and will engage in private practice in Kingston.

DR. HERBERT A. PARKYN, formerly of Toronto, has been appointed Professor of Hypnotism in the Illinois Medical College, Chicago.

WE are glad to hear that Dr. John A. Burgess, of Toronto, who is taking a holiday, and spending some time in the South (New Orleans and Mexico), is much improved in health.

The Canada Medical Record, of Montreal, has changed hands and gone under a new management. It is now owned and edited by the Faculty of Medicine of the University of Bishop's College.

DR. JOHN F. GILMOUR, of Toronto Junction, for some time registrar of the county of York, has been appointed warden of the Central Prison, Toronto. There has been some friction lately between certain officers and subordinates in the prison, and Dr. Gilmour has been chosen on account of his tact and ability, by the Ontario Government, to bring about peace, harmony, and effective discipline.

DR. R. J. WADE was entertained at a banquet by his friends in Brighton, where he is practising medicine, in honor of his election to the position of warden of the counties of Northumberland and Durham. He is the youngest man who has occupied the position. He graduated in Trinity University, Toronto, in 1888, and was one of the assistants in the Toronto General Hospital, 1888-9.

AT a meeting of the Board of Governors, February 17, Dr. James Third was appointed superintendent of the Kingston General Hospital. Dr. Third was a student of Trinity Medical College, and graduated in Toronto and Trinity Universities, 1891. He spent one year as resident assistant in the Toronto General Hospital. He commenced practice in Trenton in 1892, and was still in that town at the time of his appointment.

OBITUARY.

DR. GEORGE DUNCAN.—Dr. George Duncan, of Embro, died, after a short illness of two days, January 15, 1896, aged 76. He became a Licentiate of the old Medical Board in 1832, and practised at Embro for over fifty years. He was very popular on account of his genial disposition, and highly respected on account of his skill in his profession. 1852 (Old Med Soc. 1892)

THOMAS W. READE, B.A., M.D., C.M.—Dr. Thomas W. Reade died at his home in Niagara Falls, February 10, after a short illness from pneumonia, aged forty-five. He was educated at Trinity Medical College, and graduated in Trinity University in 1874. After graduating he practised for a short time in Toronto, and then went to London, where he remained a number of years as resident assistant physician to the Asylum for Insane. In 1886 he went to Niagara Falls, and practised there with success up to the time of his last illness.

WALTER THOM, M.B. (Tor.).—We have to announce with deep regret the death of our young friend, Dr. Walter Thom, which took place at his mother's residence, Dunbarton, January 29, 1896. He graduated in the University of Toronto in 1895, after taking the regular course of four sessions. He developed tubercular pneumonic phthisis, which was first discovered in January, 1895. It ran a rapid course, and, during the examinations in April, 1895, a severe hæmorrhage occurred. Dr. Thom was much weakened by this, and never rallied, although at one time last fall he seemed to pick up a little. The apparent improvement was short-lived, however, and was followed by a rapid decline. During his student days he was a room-mate of Dr. Merritt, whose sad death occurred a few months ago in Scotland. Ont. Dr. Thom was well known to the teaching staff of the University as an excellent student, and was deservedly popular with his fellow-students.

JAMES MCLAREN WALLACE, M.D.—Dr. Wallace, of Port Elgin, died at his home February 17, 1896, from apoplexy. He was born in Scotland, and received his medical education at Glasgow. After graduating he practised a few years in Newcastle, and came to Canada in 1861. After practising several years at Spencerville, he was appointed superintendent of the Orillia Asylum in 1876. The following year he was appointed superintendent of the Asylum for Insane in Hamilton, and retained that position until 1887, when he resigned on account of failing health. He was 59 years of age at the time of his death. As a general practitioner he was highly successful; but, we understand, his regular work in the asylums over which he was made chief officer was more to his

taste. He was generally recognized as a man of ability and integrity, although ill-health, during the last years of his life, prevented him from taking any prominent part in the medical world. He left a family of four sons, three of whom are doctors, and two daughters.

WILLIAM RYERSON WADE, M.D., C.M.—A very able and successful young physician died in Parry Sound District under exceptionally sad circumstances. Dr. W. R. Wade, of Dunchurch, P.S.D., contracted a very severe cold in the latter part of January. On the morning of January 31 he was suffering from a sore throat and general prostration. While in this condition he received a call to visit a patient thirty miles distant; and, contrary to the advice of friends, responded as cheerfully as was his custom in such cases. He got back to his home with much difficulty, and went to his bed very seriously ill. His brother, Dr. R. J. Wade, of Brighton, left his home on Monday evening and reached Dunchurch on Tuesday morning. He at once sent an urgent message to Dr. G. R. McDonagh, of Toronto, to come up by that afternoon train. Dr. McDonagh left Toronto at 1.10 p.m., reached Sundridge about half-past eight in the evening, and then drove twenty-five miles, over rough roads and through snowdrifts, to Dunchurch, arriving about midnight. Notwithstanding the fact that a vigorous treatment was carried out, the patient grew rapidly worse. The breathing became so labored that Dr. McDonagh tried intubation, without any good effect, however, and finally performed a tracheotomy. The latter gave some relief, but this was only temporary, and death occurred about 9 o'clock on Wednesday morning.

Dr. W. R. Wade was born in the county of Northumberland in 1863, and was therefore in his thirty-third year at the time of his death. He received his medical education in Trinity Medical College, and graduated in Trinity University in 1888, after having obtained the highest honors at his various examinations. In the summer and fall of the same year he took a full post-graduate course at the New York Polyclinic. He went to the Parry Sound District in 1889, and his speedy success at Dunchurch may be inferred from the fact that he made three thousand dollars during the first year. A man of splendid physique, there appeared to be scarcely any limit to his powers of endurance. He never spared himself, but responded to all calls, from rich and from poor alike, from far and near, at all times, and in all sorts of weather. He won gratitude and love from his patients, and the highest respect from the general public. No more popular man lived in that large Parry Sound District. He was in politics an enthusiastic Conservative, and was unanimously nominated as the candidate of his party for the next Dominion election at a monster convention at Emsdale in January, 1895. The two Wade brothers took their medical courses together, and graduated in the same year. In this issue it has given us great pleasure to refer to the success of the one who lives in Brighton, and now, in writing this obituary notice, a few days after, it causes in us inexpressible sadness to chronicle the death of the other, who was doing such grand work in Muskoka and Parry Sound.