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- Ext. Bellad.....⅛ gr.
- Ol. Res. Capsici.....¼ gr.
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Ext. Aconiti.....⅛ gr.

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Ferri Carb. (Vallett's).....2 grs.
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Ferri Redact.....1 gr.

Quiniæ et Ferri et Strych. Phos.

Quiniæ Phos.....1 gr.
Ferri Phos.....1 gr.
Strychniæ Phos.....1-60 gr.

Tonics—continued.

Quiniæ Iodoform et Ferri.

Iodoform.....1 gr.
Fer. Carb. (Vallett's).....1 gr.
Quiniæ Sulph.....½ gr.

Sumbul Comp. (Dr. Goodell.)

Ext. Sumbul.....1 gr.
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Res. Podophylli.....1-25 gr.
Ol. Res. Zingib.....1-10 gr.

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Zinci Phos.....1-10 gr.
Ext. Nuc. Vom.....¼ gr.

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Phosphori.....1-100 gr.
Ext. Nuc. Vom.....¼ gr.

Pil. Phosphori Cum. Nuc. Vom.

Phosphori.....1-50 gr.
Ext. Nuc. Vom.....½ gr.

Pil. Phosphori Cum Ferro.

Phosphori.....1-50 gr.
Ferri Redact.....1 gr.

Pil. Phosphori Cum Ferro et Nuc. Vom.

Phosphori.....1-100 gr.
Ferri Carb.....1 gr.
Ext. Nuc. Vom.....¼ gr.

Pil. Phosphori Cum Ferro et Quiniæ et Nuc. Vom.

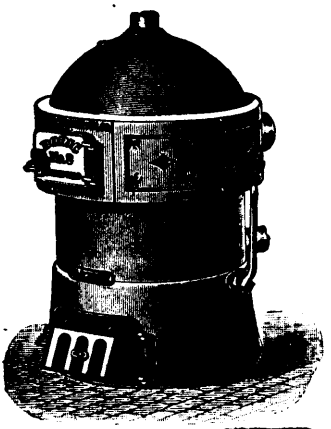
Phosphori.....1-100 gr.
Ferri Carb.....1 gr.
Quiniæ Sul.....1 gr.
Ext. Nuc. Vom.....¼ gr.

Pil. Phosphori Cum Quiniæ.

Phosphori.....1-50 gr.
Quiniæ Sulph.....1 gr.

Quiniæ et Ferri Carb.

Quiniæ Sulph.....1 gr.
Ferri Carb.....2 grs.



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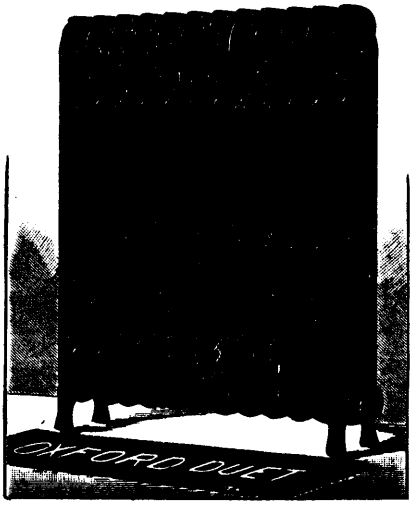

The Gurney Foundry Co., Ltd. Toronto.

The Canada Lancet.

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CYSTIC TUMORS OF THE OVARY COMPLICATING PREGNANCY, WITH NOTES FROM CASES.

BY H. MEEK, M.D.,

Fellow of the British Gynecological Society; Gynecologist to the London General Hospital, and Visiting Gynecologist to the London Insane Asylum, London, Canada.

CASE 1. When I was with Lawson Tait, of Birmingham, during the summer of 1891, a patient came into his private hospital in June with the following history:

Mrs. C., æt. twenty-five years, married sixteen months, had given birth to one child, born dead on February 14th, 1891.

Menstruation began when aged fifteen years, and her periods from this time on were regular every four weeks, and lasting four or five days, with moderate loss till she became pregnant in May, 1890.

Her last regular period before she became pregnant commenced May 7th, 1890.

During gestation period, beyond morning sickness and some leucorrhœa she enjoyed good health and had no idea of anything wrong. Labor pains commenced during Friday night, February 13th, 1891, and on following morning her physician was called, and on examination found a fluctuating swelling bulging into vagina and rectum, obstructing descent of child. After exploring with a hypodermic needle he opened into swelling through rectum with a scalpel, and evacuated a quantity of thick purulent looking fluid, and succeeded in delivering a dead child with in-

struments about 7.30 that evening. Puerperal period during first two weeks was not much disturbed except by large quantities of yellowish discharge from rectum and vagina.

Discharge ceased at the end of three weeks, and did not return until the end of six weeks. She was out of bed at the end of second week, but had to return to bed again at the end of four or five weeks on account of diarrhœa and discharge, and from this time on she had been steadily losing strength. She had menstruated six weeks after delivery and again six weeks later, but not since.

She had suffered from considerable pain in back, but not much abdominal pain. About three weeks before coming to Mr. Tait she had been in a hospital, and several ounces of pus aspirated through vagina.

On admission to Mr. Tait's hospital patient looked pale and sallow; temperature and pulse were normal, and there were no chills or night sweats. *Abdomen* was enlarged by a soft swelling in hypogastrium. *Per vaginam*, uterus was found to be forward, and behind it a large, fixed, fluctuating swelling. *Per rectum*, this fluctuating swelling could be felt in front, between it and the uterus.

On June 15th Mr. Tait opened the abdomen, and found a suppurating dermoid cyst of left ovary, very firmly adherent in pelvis. There was no general peritonitis. In exploring with finger cyst wall was broken into, and abscess sac, containing a large quantity of fetid pus and hair, was thoroughly washed out. The sac was then separated and removed with considerable difficulty. The abdomen of patient was then flushed with gallons of hot water and iodine water, and a glass drainage tube inserted to bottom of pelvis.

The abscess sac had communicated with the rectum low down by a small opening, which could be seen after the removal of tumor and thorough cleansing of pelvic cavity. The opening into rectum was too low down for suturing.

Patient never rallied well after the operation. Her pulse gradually got weaker and she died in about thirty hours following the operation.

CASE 2. On May 19th, 1896, I was asked by Dr. Hodge to see with him in St. Joseph's Hospital, London, a patient who gave the following history:

Mrs. H., aged thirty-five years, married seven years; two children—eldest aged five years and youngest eight and one-half months. She had no miscarriages. She had not menstruated since before last pregnancy. Her family history was good. Patient herself had never been very robust. Her first confinement lasted about fifteen or eighteen hours and she was delivered with instruments without difficulty. Convalescence from this confinement good. She nursed her baby fourteen months, and menstrual flow did not return until after weaning the baby. From this time on menstrual periods were regular every four weeks, and lasting five or six days, with rather free flow.

Her health continued good till about Christmas, 1893, when she had an attack of la grippe followed by some lung trouble for a time, and during the following spring she suffered from backache, which became so severe that in May she had to go to bed. Her menstrual periods at this

time became more frequent—every two weeks—and painful, with free flow.

She was unable to work for two or three months. Her periods became regular again in July, and continued regular till her second pregnancy in December, 1894. During her last pregnancy she suffered some bearing down in pelvis, and two months preceding birth of child she suffered from some pain in right side, low down and extending up under ribs, more particularly after walking. No vaginal examination was made up to the time of labor.

Labor commenced during the morning of September 8th, 1895, and her physician, Dr. Wood, of Mitchell, saw her about 7 a.m., and on examination found a fluctuating swelling low down in vagina in front of presenting head and interfering with descent. Dr. Hulbert was called to assist, and under chloroform the swelling was aspirated through vagina, and several ounces of milky fluid resembling pus removed. The head then came down, and a living child was born without further difficulty about eleven that morning. After delivery patient appeared to be getting along very well till the third day, when she had a chill, followed by fever and sweating. A week later she had another chill, followed by rise of temperature and profuse sweating. The swelling in cul de sac appeared to fill up and then subside. She remained in bed about two months. After getting up she felt a swelling low down, apparently near anus, and could not sit down on account of uneasiness and pain from this swelling. In December, '95, or about three months following birth of child, Drs. Wood and Hulbert opened into swelling behind the uterus through the vagina, under anæsthesia, and evacuated considerable pus and inserted a drainage tube for a time. About two weeks later a swelling appeared above Poupart's ligament in right inguinal region, and under anæsthesia an incision was made into this swelling, but very little fluid was found at this point.

For a short time after this patient appeared to improve some, but in January, '96, she had severe pain and straining in rectum, followed by a discharge of pus with stools, and later on in February by chills, fever and sweating again.

From this time on till coming to the hospital patient had suffered from abdominal pain and straining in rectum, requiring morphia for its relief nearly every day, and also from frequent discharges of pus with stools, rise of temperature, frequent weak pulse and night sweats.

Examination on entering hospital—general appearance pale, sallow; temperature normal, pulse 104 and weak. She was very much emaciated; scarcely any adipose left in body. The skin was tightly drawn over all bony prominences, and along lower part of spine the appearance of commencing bedsores. From her extreme emaciation she might readily have become a candidate for the position of "*the living skeleton in any dime museum.*" Her abdomen was flatulent and the transverse colon very much distended; could easily be traced in its course obliquely across under the thin abdominal wall.

Examination of liver and kidney and appendix regions negative. In right inguinal region, just above Poupart's ligament, could be felt a hard,

stony-like thickening, apparently filling right pelvis from median line behind pubes out laterally to right pelvic wall. Pressure over this mass was painful. A small cicatrix, about one inch in length, could be seen over right inguinal canal where the incision had been made into swelling in this location.

Per vaginam—Uterus could be felt forward, about normal size and firmly fixed in a plaster-of-Paris-feeling mass behind and to right. Behind cervix could be felt the cicatrix where drainage tube had been.

Per rectum—About two and one-half inches up, a hard, stony-like thickening almost completely encircled the gut like a stricture at this point, and was very tender to touch.

No sense of fluctuation could be felt anywhere in the mass.

Examination of urine gave negative results.

The probable diagnosis made from history of case and examination was a suppurating cyst of right ovary which had partly discharged through rectum.

On May 26th, with patient under chloroform and assisted by Drs. Hodge, H. Stevenson and house-surgeon Dr. Davis, I made a free opening into cul de sac behind cervix, and then explored with finger and felt a soft, fluctuating mass well up on right side, into which I opened with scissors and evacuated about six or eight ounces of fetid pus having a very strong fecal odor. The opening in this abscess sac was then dilated and cavity thoroughly and carefully curetted with a blunt curette, which brought away considerable pus, cheesy material and several small tufts of soft, light-colored hair mixed with pus. The cavity was then thoroughly irrigated till clean and strong tincture of iodine swabbed all over its interior, and a good-sized rubber drainage tube, wrapped in iodoform gauze, introduced well up into sac.

At the conclusion of the operation the patient's pulse was 140 and weak, but fell gradually till about normal next evening.

The drainage tube was removed on the fifth day after operation and cavity again irrigated and iodine applied, and a strip of gauze introduced. From this time on the abscess cavity was irrigated every third or fourth day and swabbed with iodine or zinc chloride solution, and kept open by the introduction of a strip of iodoform gauze. It contracted down quite rapidly and patient steadily improved in health and appearance, and was able to return to her home in Mitchell, Ont., early in July, the cavity having contracted down to a small sinus with very little discharge.

In a letter to Dr. Hodge from her physician, Dr. Wood, in February last, 1897, he states that patient has regained her usual health, and is able to do her work in the farmhouse. A very small sinus with very little discharge still exists, but gives her no inconvenience.

This sinus, he thinks, would have been completely closed before this if patient had not neglected having it attended to by an occasional cauterizing application.

CASE 3. Mrs. L., Canadian, aged twenty-three years, consulted me July 20th, 1896 (at which time she was unmarried), for a leucorrhœal discharge, from which she had been suffering for nearly one year; also for pain in left side after walking; and for the past day or two she thought

she could feel a lump low down on left side of abdomen. She had also suffered occasionally from backache, and lately from nausea at times.

Her menstrual periods had first appeared when aged sixteen, and they had been regular every four weeks, lasting about five days, with moderate flow and no pain till June, 1896. Her last period commenced on May 19th, 1896, and was normal in every way.

On examination I found lower part of abdomen distended and flatulent, and on left side low down a somewhat rounded swelling could be distinctly seen, which on palpitation could be felt as a firm, rounded, movable mass coming up from behind pubes, somewhat tender on pressure and dull on percussion.

On right side above Poupart's ligament some fullness was noticeable, which on palpitation was found to be a tense mass apparently filling right inguinal and partly right iliac regions, slightly tender on pressure, dull on percussion, elastic, but not distinctly fluctuating.

Per vaginam.—A mild papillary vaginitis, which evidently had been the cause of leucorrhœal discharge. Cervix uteri was rather high up and soft, and the lump felt through the abdominal wall above and to left was found to be continuous with cervix, and apparently the fundus and body of enlarged uterus, giving the physical signs of early pregnancy.

Behind and to right side of uterus low down could be felt a large swelling, about the size of a fœtal head, filling the whole of right ride of pelvis, and rising up above Poupart's ligament, displacing the enlarged uterus to left side and lifting it up. The mass was continuous with that felt through abdominal wall on right side. It could not be lifted up out of pelvis.

The diagnosis arrived at from examination and history was an embedded ovarian cyst between folds of right broad ligament, complicating pregnancy at probably two months. The breasts also gave a suspicion of pregnancy and the uterus could be moved independently of tumor on right side. The patient went into St. Joseph's Hospital, and on August 1st, under ether administered by Dr. H. Stevenson, and assisted by Drs. Eccles and Ferguson, I opened the abdomen by a median incision. Omentum and intestines presented, which when pushed back disclosed the wall of a cystic tumor occupying the right side of pelvis.

Surface of tumor had the white, glistening appearance of ovarian, and spread out over arch of tumor was the enlarged, elongated right Fallopian tube, and over its anterior surface the very much thickened right round ligament.

The tumor on left side was found to be the enlarged uterus, having the feel and appearance of pregnancy in the third month.

The cyst was tapped with trocar and about two quarts of light greenish straw-colored fluid removed. The sac was then drawn up into wound and examined for a pedicle, but it had no pedicle, being embedded between layers of right broad ligament. The capsule was then opened behind Fallopian tube and separated from cyst sac for some distance around opening; then by drawing up cyst sac I found that its enucleation was comparatively easy and without much active bleeding. After enucleation, the next question was how to deal with the large opened up cavity

between the layers of broad ligament. After considerable difficulty, I succeeded in bringing the capsule up sufficiently to transfix and ligate below the bottom of the cavity. Some raw surface on posterior surface of broad ligament below ligature required whipping over with fine suture. The left ovary and tube were found normal, with normal enlargement expected from pregnancy. The abdomen and pelvis were carefully sponged out, and abdominal wound closed with silkworm gut.

Patient suffered very little shock from operation, and convalescence was uneventful and without the slightest indication of any disturbance in the progress of pregnancy. She left the hospital August 29th, and about six weeks later, being informed of her pregnant condition, she married. Gestation proceeded normally, and she was delivered of a healthy male child about ten pounds in weight, without difficulty, on February 23rd, 1897; just two hundred and eighty days from first day of last menstrual period.

Puerperal convalescence was normal with the exception of hemorrhoids, which caused considerable inconvenience during the first eight or ten days.

Remarks.—These cases have been reported in the order in which they came under observation, and one's attention is naturally directed to the uneventful progress during pregnancy, labor and the puerperal period of Case 3 as contrasted with the prolonged period of suffering invalidism in Case 2, and the fatal termination in Case 1.

Case 3 was a primipara, unmarried at the time she first came under my observation; an examination of pelvic organs was made early in pregnancy, the complication diagnosed and removed before it had time to cause any serious interference.

Case 2 was a bipara in whom the first labor was not attended with difficulty, and during her second pregnancy her symptoms were not considered sufficiently important to demand an examination of pelvic organs and as a result the mother's life was nearly sacrificed.

Case 1 was a primipara and had complained of no untoward symptoms during pregnancy. No examination was made till labor had started and as a result two lives were sacrificed.

The lesson, therefore, one learns from personal experience with cases of this kind is that every pregnant woman, whether primipara or multipara, and whether complaining of untoward symptoms or not, should be subjected to a very careful examination in order to ascertain if there is any complication, pelvic or abdominal, that might interfere with the normal progress of pregnancy, labor, or the puerperal period; and such an examination should be made early in pregnancy if possible, for the reason that the risks from operation in such cases are less during the early months than later on in pregnancy, although I think all cystic ovarian tumors complicating pregnancy should be operated on as soon as the diagnosis is made, no matter what may be the period of gestation.

If cases one and two had been examined during pregnancy it is quite probable that the complication in each case would have been discovered, and there is no reason why operative interference should not have given as satisfactory a result as in case three.

A CASE OF ACUTE INSANITY DUE TO EYE STRAIN.

BY MURRAY McFARLANE, M.D.
Rhinologist, etc., St. Michael's Hosp., Toronto.

Mrs. A., aged 27 years, referred to me by Dr. Waddy of Rosseau, Muskoka, with the following history:

For several years she had suffered from severe pain in the eyes, especially the left, with frontal and occipital headache. Family history good; no insanity; general health had always been good, in fact had the first "cold" in her life while in Toronto.

I was told by her husband that the headaches had been constantly increasing in intensity, and culminated, two weeks previous to her consulting me, in acute insanity or delirium, necessitating restraint. Dr. Waddy, her family physician, reviewing the case came to the conclusion that the eyes were at the bottom of the trouble and advised that an oculist should be consulted. This was reluctantly agreed to by her family, who could not believe that the eye strain would cause her symptoms.

When brought to me she was suffering intensely, was very melancholy, and would scarcely answer when spoken to. Upon ophthalmic examination no abnormality in the nature of disease could be detected.

Field of vision normal, slight hyperpharia.

Refraction without mydactic.

O.D. .50D+sp. O S. 1D+sp. 3D−aj. axis 15°.

With Atropine. O.D. .50D+sp. O.S. 1.95D+sp. 2.25D−aj. axis 15°

This result showing spasm of accommodation so clearly, and the fact that the day following the instillation of the mydactic the headache disappeared, fully confirmed Dr. Waddy's diagnosis as to the cause of the insanity or delirium from pain.

Glasses were ordered as above, with complete relief of all the symptoms, and Mrs. A. returned to her home and has been a new woman, according to her physician's report, ever since.

This case is of interest, as it suggests the query as to what would have been the result had not the error of refraction been corrected. Might not chronic melancholia or other brain trouble have resulted?

FRACTURE OF THE INTERNAL CONDYLE OF THE HUMERUS.—I am firmly convinced that it is desirable practice to postpone passive motion until the intermediate callus is firm enough to prevent motion at the seat of fracture. Postpone passive motion for from eight to twenty-one days, in the child; in the adult, for three or four weeks. It is by securing rest for the fracture that we diminish as far as possible the amount of exuberant callus so often in the way of an ideal functional result.—*Dr. Senn, in Medical Record.*

SURGERY.

IN CHARGE OF

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THE PROBLEMS WHICH MOST PERPLEX THE SURGEON.

BY ROSWELL PARK, A.M., M.D.,

Professor of Surgery, Medical Department, University of Buffalo.

The more conversant one becomes with the literature and accumulated knowledge of others concerning the topics which usually interest him, and the more he pursues his studies within restricted lines, the more difficult it becomes to select a subject of which he may legitimately treat before such an audience as this. It is, therefore, with not a little hesitation, and yet with the highest appreciation of the honor done me in inviting me to address you on this occasion, that I have concluded to invite your attention to some of the problems which the medical profession as a class, and particularly those who practise surgery, are to-day most often called upon to confront, which still seem so obscure that when asked for explanations we have to confess absolute ignorance, and state that we sadly need light from any and every source.

We have a right to view with the greatest satisfaction and pride the progress which has been made both in the theory and practice of surgery, and particularly in that branch of general surgery spoken of as surgical pathology. And just here I may be permitted to remind you that, according to the best standards of the day, pathology is not distinct from but must be a part of surgery—else would the surgeon lose the explanation of both the lesion which he is treating and of the reason of his treatment. I think, then, that of all the factors that can be mentioned as having conspired to put surgery where it is to-day, the most conspicuous is the recognition which surgeons have given to surgical pathology. In consequence, I may repeat here the statement which I often make, and which may well challenge contradiction, "that of all the branches of applied science none has made more rapid progress during the last twenty-five years than surgery, save only electricity."

It being admittedly, then, so impossible to dissociate theory from practice, the active thinker finds himself sadly hampered in treating actual

disease, when he fails to understand either its nature or the bodily conditions which have permitted its occurrence, or both. Among the so-called surgical diseases we are familiar with the active causative agents in nearly all instances, but we are far from familiar with those physical conditions of the body which seem at one time to invite and at another to prevent infection. This might bring up before us the whole question of susceptibility and immunity, over which physicians and surgeons must undoubtedly vex themselves for yet many years before the intricate problems involved are regarded as settled—if, indeed, a happy solution be ever reached. Upon these subjects I have more than once addressed my colleagues in various other societies, and do not now propose to take them up again. Nevertheless, there is one aspect even of these questions which it might be well to present to you as one of universal interest, one which calls for much careful study, in which the young workers of this or any other society might profitably concern themselves.

I have long been convinced that the susceptibility and immunity of a patient about to undergo a given operation are influenced not alone by the state of his excretory organs and his freedom from toxæmia of any description, but also by the anæsthetic required for the successful and easy performance of the same, and its effects as manifested through his own blood. We have had many careful observations made with reference to the effect of chloroform and ether upon the action of the heart, the blood pressure, etc., and their effect upon the kidneys and the elimination of the drug, as well as upon the temperature of the individual.

Illustrative of careful studies of this kind is the research concerning the latter recently published by Dr. Dudley Allen, of Cleveland, by all of which our clinical knowledge concerning the effect of anæsthetics has been materially augmented. I cannot conceive it possible, however, that the amount of chloroform, for example, required to keep a patient anæsthetized for an hour, and which is still being eliminated at the end of the second day, as evinced by the odor emanating from both his lungs and his person, can be so long retained in solution in his blood without more or less perceptibly affecting its germicidal properties, as well as perhaps some of the other physical attributes pertaining to this vital fluid. It may be that absence of this interference with its powers may account for escape from serious infection after extensive accidental lesions, while fatal infection occurs sometimes, in spite of great caution observed, during the performance of operations under anæsthesia. To this conviction I confess I have been moved not so much by experimental evidence as by clinical observations and certain general knowledge. What is needed in this regard is exact laboratory investigation, by which, for instance, the blood of a healthy patient, about to undergo some protracted operation, should be first examined a day or two beforehand, by the spectroscope, and by several other laboratory tests, to determine the exact proportion of hæmoglobin and of red and white corpuscles, while it should also be carefully tested regarding its bactericidal powers. This entire and elaborate series of examinations should then be repeated some six, twelve and twenty-four hours after the operation, while in a general way the anæsthetic employed and the amount of blood lost should be

noted. I am willing to venture a prophecy that after sufficient a number of such researches have been carefully collated important deductions can be made, and that it will be found that prolonged anæsthesia does increase susceptibility to infection or reduce immunity, as you may like to put it; which facts having been established, we may then be in better position to fortify our patients against this now known and recognized danger. All of this investigation, however, will require tremendous time and patience on the part of more than one observer, and can be carried on only in some institution well equipped for the purpose. There is here, I am sure, a chance for young men to distinguish themselves if they will devote themselves to the task.

One of the most important problems before us to-day seems to be with regard to the actual cause of death in numerous cases of acute and gangrenous appendicitis, in which almost from the outset the expressions of toxæmia and sepsis are overwhelming. I have seen too many cases of this kind not to be conversant with the gross findings. Nevertheless, I am still unable, as I think is every one else, really to explain the intense toxicity that characterizes them. This is not merely a question of stercoræmia from intestinal paralysis, which undoubtedly makes up a considerable part of such a case, but to this there is added something more overpowering and not included in the ordinary expressions of intestinal autointoxication. I know of no chemical researches which have been made upon the pus removed from large peri-appendical abscesses, but for my own part suspect that some of the sulphur compounds generated under these circumstances, having more or less to do with the allyl group, may be blamed for a part of the poisoning of which I am speaking.

Much may be explained in one direction by the coprostatic acute obstruction so frequently met with in these cases, and to which I believe I was one of the first to call attention. Indeed, in the light of our present knowledge, this form of obstruction, due to causes proceeding from the appendix, needs to be mentioned as by all means the most common form of acute strangulation of the bowels, although it is one too often overlooked by the profession at large, and not figuring with its deserved prominence even in recent text-books and literature. This is due in some cases to intestinal paralysis, in others to adhesions and interference with motility. If personal experience may be in this matter any criterion, I should say in all cases of acute strangulation accompanied by septic symptoms, and in the absence of something definite pointing to lesion in another locality, the wisest, and in the long run the safest, course would be to make the preliminary incision in the right iliac fossa. In so doing the surgeon will be right four times for every error that he may make.

The extreme toxicity of all cases of putrid peritonitis is not to be explained alone by the capacity of the peritoneum for absorption. Neither is this toxicity made known by general symptoms alone. The poisons so rapidly generated seem noxious to all the cells with which they come into contact; hence, gangrene or necrosis of involved surfaces appears very early. Numerous expressions of this fact may be seen in cases in which the appendix is not at fault. Nevertheless, it is in the appendix that it

has struck me as most conspicuous. Every surgeon of experience has, moreover, noted instances of fulminating appendicitis, in which, when seen early, the serous covering was not compromised to any such extent. It is probable that under these circumstances the same necrosis of the mucosa has extended over a more or less wide area inside of the cæcum, and that this is the reason why, after the removal of the appendix and temporary improvement, the septic and gangrenous processes continue and cause the death of the patient two or three days later. Such cases as this must continue to be among the opprobria of surgery, unless we open the cæcum and, if this condition be found, resect a sufficient amount of it to eradicate the difficulty.

Since the publication of Dieulafoy's masterly chapter on this subject, it has been established that the appendix becomes troublesome only when its lumen is occluded, and that when it once becomes a closed cavity it is simply a question of the virulence of its contained bacteria whether a small or fatal dose of toxins shall be produced.

Reflecting upon the similarity of acute cases of this character to those of diphtheria, in which, beneath an area of membrane, the deadly development of germs is going on, the toxins peculiar to this disease being rapidly produced, and not failing to note the beautiful and life-saving virtues of antitoxin as an antidote to the depressing poisons, I have been led to query whether an antitoxin could not be produced which should have a similar effect in cases of acute stercoræmia. While the colon bacillus is not necessarily the sole agent in producing intestinal toxæmia, it is, nevertheless, known to be that usually at fault. Acting upon this fact, I am now endeavoring to immunize animals to the properties of this organism, in order to see whether their serum may possess virtues by which we may overcome the depression and intestinal paralysis that bring some cases of acute appendicitis to the grave. Researches in this direction are now going on in my laboratory at home. It is quite likely that anti-streptococcic serum may have also to be used in these cases.

CANCER.—But the most complex of all problems in surgical pathology to-day, and that upon which we most need light, is with regard to the nature and causes of cancer; and to this topic the remainder of this paper shall be devoted.

The indefinitely sustained power of certain cells to grow and multiply in excess of normal requirements, which is Williams' definition of the essential feature of cancer formation, is common alike to vegetables and animals of any save the simplest type. That cancer appears more prevalent among domestic rather than wild animals is a fact too commonly stated as an evidence of the effect of domestication. Were the same number of wild animals taken at random and carefully examined, I think cancer would be found to be equally prevalent in the wild state. Among animals sarcomata are much more widely diffused than carcinomata, while, according to Rayer, carnivorous animals are more prone to cancer than the herbivorous; just the opposite being true in cases of tuberculosis. In the vegetable kingdom it is hard to draw distinctions between various grades of malignancy, yet that tumors kill a large proportion of trees and vegetables will not be disputed by those who have

studied the subject. Furthermore, if the method of death be studied, it will be seen to resemble in all essential particulars that which produces ulceration, starvation and finally death in animals and in man.

Those particularly interested in the general study of cancer—and who is not?—should be promptly referred at once to the various writings of Rodger Williams, who has shown himself a most painstaking and comprehensive student of the subject. To him I gladly acknowledge my indebtedness for much that has been of the greatest value to me, some of which appears in this paper.

INFLUENCE OF SEX.—According to the statistics collected by him for the twenty-five years previous to 1872, for every 100 males dying of cancer, 229 females perished from the same disease. Of deaths from all causes the proportion among the males was about 1 to 100, among the females 1 to 41. In later years this disproportion has become less marked. Women are still more subject to non-malignant growths. Of cancer in women the breast is involved in 40 per cent., the uterus in 34 per cent., all other parts of the body making up the other 26 per cent. In males, the parts about the mouth yield 40 per cent. of the cases. He collected 1,878 consecutive cases of breast cancer in both sexes, in only 16 of which was the mammary gland in the male involved.

This great discrepancy holds good mainly with regard to carcinoma. When we come to sarcoma, there is but little difference between the sexes, all of which Williams interprets as being due to biological peculiarities pertaining to the reproductive organs. Thus mammary carcinoma is more prone to arise when post-embryonic developmental activity is greatest.

INFLUENCE OF AGE.—In the evolution of cancer, this can be accurately stated only by comparison of mortality rates with the number of healthy individuals living. After the ages studied are estimated in this way, it appears that the liability to carcinoma increases with each successive decade until the seventy-fifth year. Further study shows that the most characteristic feature in this increase is not mere advance in years, but disproportionate increase in the post-meridian years. By a most instructive diagram Williams shows that the most prolific cancer-producing age is that between the fifty-fifth and sixty-fifth years of life. In other words, during the years when the forces of growth are most active the tendency to carcinoma is small. With the period of tissue and organic maturity begins the liability to the disease, which increases until about the sixtieth year. That the uterus and breast are attacked at an earlier age than other organs is because they have become *passé* with the conclusion of child-bearing life. With the waning of developmental activities the danger of cancer increases, to pass away only when the organs have undergone complete physiological atrophy. The same statement can be made with regard to liability to known infections, whether cancer be an infection or not.

RACE, COMPLEXION, ETC.—Williams has carefully studied the complexion of three hundred and eighty-four cancer patients, his investigations showing him that, especially among females, there is greater liability to this disease in brunettes than in blondes, and this in spite of the fact

that the blonde type prevails among the population generally. He puts the frequency of the disease as being about twice as common in brunettes as in blondes. Beddoe furthermore states that red-haired individuals are even more exempt than others of light complexion. Our own census returns show that cancer is twice as frequent among whites as among blacks; and among whites, in this country at least, and taking it at large, Billings finds that the Irish and German are the most liable.

That the disease is said to be very rare in Iceland, Greenland, Turkey, and Greece, has of course but little interest for us in this country. It is exceedingly prevalent in China; three per cent. of the patients in the Hong-Kong Hospital suffer from the disease. It is said that cancer of the stomach is extremely rare among the Chinese. In India also the disease as a whole is somewhat rare. This may be misleading, however, because most of the people are averse to operations for anything except calculus and cataract. Certainly in the tropics, the world round, the disease is less common than in the temperate zone, though I have often said that we who live in Western New York live really in the tropic of cancer, because the disease is so extremely prevalent with us.

Family History.—One of the vexed questions of to-day about cancer concerns its heredity. Williams carefully studied one hundred and thirty-six cases of breast cancer, and discovered a history of disease in the family in one-fourth of the number. So far as I have studied my own case histories, I think my proportion in which there is a family history of this disease to be a little larger even than Williams'. Any such statement as this means a strikingly high proportion of inherited lesion, no matter what this may be. Deformities, defects, and supernumerary organs are not transmitted from parent to offspring in anything like twenty-five per cent. of instances. Moreover, in some cases there is a history of multiple instances in the same family, which have not yet been sufficiently analyzed to yield positive deductions. It must be said that numerous cases occurring within one family, all of whose members live closely together, are fully as much of an argument for the parasitic nature of the disease as is its repeated occurrence in the so-called cancer houses. I know, for instance, of a house in a little town in western New York, in which, during three successive generations of inhabitants, deaths from cancer have occurred, these being really among different people of the same family, but not so arranged as to be directly transmitted by inheritance.

If cancer is transmissible by heredity and is not an infection, it should tend to die out in the course of transmission, as do all abnormalities. Thus, out of three hundred marriages in which both husbands and wives were deaf and dumb, in only five per cent. of the cases were the offspring similarly affected; while of three hundred and ten deaf mutes married to those who could hear, the proportion of affected offspring amounted only to one in one hundred and thirty-five (Buxton).

Another element of uncertainty pertains to the fact that cancer is rather a disease of adult life, and it is not yet established whether offspring born before the appearance of the disease inherit any liability to it. Williams reports two instances in which both parents were cancerous,

who produced seven children, of whom two died of cancer; also seven marriages in which only one parent was cancerous, from which resulted sixty-two children, of whom ten had the disease. Six marriages between those of whose parents none were cancerous, but in whose families there was a history of cancer, resulted in forty-one children, of whom eight became cancerous.

In this connection it is worth while to remind you of Broca's celebrated report, of the twenty-six descendants of a cancerous patient who attained or exceeded the age of fifty, of whom fifteen died of the disease. It is of interest also to remember that in families returning a cancer history, there will be a disproportionately large number of non-malignant tumors and cysts. Here, too, as in other instances, one generation may totally escape, while the disease appears in the second or even the third. When inherited it appears much oftener in females than in male relatives. Of interest, too, is Williams' conclusion that a large proportion of cancer patients are the surviving members of tuberculosis families, and history affords the corollary that no condition which can be inherited better predisposes to cancer than that which also predisposes to tuberculosis. It appears, moreover, that in families in which cancer has prevailed there is a striking evidence of fecundity, the average number of children throughout being 4.6 to a family, while in one hundred and ten cancer families which Williams studied the children averaged 8.8.

THE GENERAL HEALTH OF CANCER PATIENTS.—Cancers appear to prevail largely in those who are subjects of hypernutrition, and this is true even of those who are survivors of tuberculosis families, to which there is no exception. Beneke has described cancer patients as having large hearts and arteries with small lungs, which is just the reverse of the condition met with among those predisposed to tuberculosis disease. Moreover, nutrition rarely suffers until late, at least among cancer patients, save in those whose alimentary organs are involved.

There is a general belief that a vegetable diet exempts from cancer, as compared with flesh eating; this may possibly be explained by the fact that the majority of a community among whom cancer is relatively rare cannot afford a meat diet, or it may be that a flesh diet actually predisposes to the disease. According to Beneke, cancers are rare in prisons, where animal food is not freely furnished and where the work is hard. Nevertheless, vegetarians are not exempt from the disease. Indulgence in alcohol, if it has any effect, seems rather protective than otherwise.

Some writers attach great importance to brain exhaustion, wear and tear of the nervous system, due to the habits of society people of the day, as causes of cancer. In spite of Williams' disclaimer, I am induced to think that brain fag certainly does so interfere with nutrition as to have a causative relation to the disease. Moore's view can be pretty generally accepted "that cancer is eminently a disease of persons whose previous life has been healthy, and whose nutritive vigor gives them otherwise a prospect of long life."

PREVALENCE OF CANCER AND ITS INCREASE.—In 1840, in England, the proportion of deaths from cancer to the total mortality rate was 1 in 129; in 1880 this had risen to 1 in 28, which shows that in England the

death rate from cancer is now about four times greater than fifty years ago. Williams estimates that at least 40,000 persons are now suffering from cancer in England and Wales, whereas in 1840 the number was only about 5,500. Should the disease increase in the future at the same relative rate, it will become one of the commonest of all. This augmented mortality corresponds with increase of population in wealth and improvement in general sanitary conditions. In Ireland, where this happy condition of affairs does not obtain to a corresponding extent, the cancer death rate has been much smaller and has shown no such marked increase. In 1861, in England, there were 376 deaths from cancer to the million of population; twenty-five years later there were 610. During this quarter of a century the number of deaths from phthisis per million has diminished to three-fifths of the number at its commencement.

In the twenty years from 1870 to 1890 the increase in mortality from cancer in England is as follows: In 1870, 384 to the million; in 1880, 468; in 1890, 590. Accepting these published figures from the registrar-general's report, it would appear that the mortality has increased by 53 per cent. Nevertheless, it is not quite so bad as this, because the diagnosis of obscure cases is now more accurate than it was twenty-five years ago.

From a tabulation of the deaths within our own State of New York during ten years, from 1885 to 1895, I find that during this time there have been reported 30,692 deaths from cancer. Doubtless in a few of these cases there may have been a mistake in diagnosis, which will, however, be abundantly atoned for, and more, by the deaths which were really due to cancer and ascribed to some other cause. In 1885 there were 1,882 deaths from this cause; in 1890, 2 878; and in 1895, 3,454. In other words, in the last year of this decade the total number of deaths from cancer was twice that of its first year—which may be interpreted as meaning that the death rate has increased much more rapidly than has the population. During this same decade, also, the number of deaths from all causes has increased only from 80,000 to 121,000. During the last five years of this decade epidemic influenza alone caused 35,000 of the 121,000 deaths. It will therefore be seen how rapidly the cancer death rate is creeping up.

In 1892 Haviland published a monograph, in London, on the "Geographical Description of Heart Disease, Cancer, and Phthisis in England and Wales," in which he maintained that where cancer is most prevalent the country is low and traversed by rivers, which frequently flood the adjoining country; whereas cancer is relatively scarce in mountainous regions or where floods do not occur, and where the subsoil is either hard or absorbent. Thus he found that the Thames runs through a vast cancer field, excepting only where the chalk crops out. Williams, however, states that this cannot be true of all low-lying countries, and seeks to explain the prevalence of the disease in the valley of the Thames by conditions of life peculiar to its population. He calls attention to the fact that cancer mortality is lowest where the struggle for existence is hardest, the population densest, the general mortality highest, the average duration of life shortest, where sanitation is least perfect, and the

death rate from tuberculosis highest—in other words, among the working classes—whereas the cancer mortality is greatest among the agricultural community, where people are well-to-do, and where the standard of health is highest and of life easiest. He believes the most potent factors in the causation of cancer to be high feeding and easy living, and that the farmer is in general better off than the city laborer, but more liable to cancer. So, too, in London, where the cancer rate is highest, it is significant that this is particularly true of those parts where the wealthy most abound.

CAUSES.—When we come to consider more in detail the causes of cancer, we shall have to discard without the slightest hesitation most of the theories which have figured in time past. We shall, in fact, find ourselves narrowed down practically to two. Cells arrange and disport themselves as they do when they form a cancer either in accordance with laws of heredity and atavism, showing ever a tendency to revert to earlier and simpler forms, or else because they are provoked to rebellion by the presence of intruding and extrinsic elements; in other words, we must explain cancer and tumor formation either on the embryonal and evolutionary basis or consider it a parasitic disease.

The traumatic origin of cancer must be based upon stronger evidence than exists to-day if it is to hold good for other than exceptional instances. Undoubtedly men are very much more subject to injury than are women, yet are not half so liable to the disease. Surely men are injured in the thoracic region oftener than are women, yet they suffer from cancer of this region only in proportion of 1 to 115 or 120. If mammary cancer were really caused by injury, the external parts would be certainly more frequently affected, whereas the reverse is true. Cancer for the most part begins as a solitary affection, which would not be the case were it of traumatic origin. If injury be made to figure at all as a cause of cancer, it must be mainly as a cause of sarcoma, since sarcoma can be once in a while traced to such accident. In this consideration I would put epithelioma in a distinct category, since I firmly believe that prolonged irritation of a surface covered by squamous epithelium and frequently infected may produce an epithelioma as an expression of this fact.

That there seems to be, in some cases at least, a particular association between cancer and previous disease of the parts cannot be denied after Volkman's record of two hundred and twenty-three cases, from various sources, of primary cutaneous cancer of the extremities, in eighty-eight per cent. of which he found that there had been pre-existing disease of the part involved; though it must be said that others have not found anything like the same percentage of relationship. At best, then, we can only say that chronic nutritive or infectious lesion cannot necessarily be regarded as antecedents of cancer.

Rindfleisch long ago called attention to what he called the infectiousness of epithelial cells. If it can be shown that he spoke with prophetic accuracy, then the parasitic theory of cancer is established. If, on the other hand, this was but a happy expression showing how epithelial cells react upon each other, then the phrase has no meaning, and was simply an allusion to the metastatic spread of cancer.

(To be concluded in next issue).

MEDICINE.

IN CHARGE OF
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IN THE DISSECTING-ROOM.

A DIALOGUE BETWEEN AN OLD PHYSICIAN AND HIS SON, A STUDENT OF MEDICINE.

BY PETER ROSEGGER.

Long before the vacation began, he came home. His boots spattered to the very tops with mud, his hat soaked by rain even to the very lining, and an eye flashing nervously and angrily as he stood before his father.

"Who is this, then?" asked the latter, grasping the tip of his long beard and rubbing his old eyes with it. "Can this be my Adalbert?"

"Father, that's who it is. I'm sorry to say it is, father."

"Then the university is burned out?" said the old man.

"No, the university still stands. It is I that am burned out."

The old man grasped the youth firmly by both shoulders, as though to shake him. But as the young man scarcely moved at all, he said: "This is not ashes. Not at all. This is one who has a solid framework in his body. Perhaps it is in your pocket that things have gone wrong?"

The youth had thrown his soaked hat into a corner, and himself upon the sofa.

"You may have a calf butchered, papa; I come as a prodigal son. That is—no, have me butchered. I am a prodigal son. I shall be one and remain one. There is no repentance in me. Let the calf live; but let me have a drink, I am thirsty."

The old man went up to him and laid his hand upon his b ow: "Is it possible that anything is out of tune here?"

"It is out of tune *here*," said the young man, pointing to his heart.

"O yes, I see—in love," laughed the old man. "And for that the long trip in this beastly weather? Good, my son, that you value so highly the blessing of your old father."

"The blessing will grow stale before I find a sweetheart."

"Not that, then? An Adonis of twenty, and not in love? For shame! A healthy medical student, and not in love?—Boy, you're studying anatomy, aren't you?"

"No, father. That is just it. I am no medical student. I am not studying anatomy. And that is why I am here destroying your pet ambition, poor, dear father!

The old man filled his pipe; it had a stem so long that he handed the match to his son: "Be so good as to start the fire." When he had taken several whiffs, and the blue rings were wavering about his grey head, he said: "So not a medical student! Well, why not, please?"

"To make it short: I can't stand the infernal dissecting-room."

"You can't stand the in—"

"—fernal dissecting-room. It sickens me."

"O, you dear baby you! that passes off in a few days."

"For four weeks I attended. Then again for four weeks. The last day was even worse than the first."

"Do you expect me to believe that?" asked the old man, imperturbably. "Why, you have often helped me bravely with surgical operations at home. No dread of blood, no blood-poisoning. Why, a cadaver is nothing in comparison."

"God forbid that a cadaver should sicken me," cried the youth, springing up from the sofa. "It is the infernal *frivolity* that sickens me. Say, father, am I sentimental? Was I ever?"

"Like a golden russet in September! That is about my idea of your heart. Sentimental? Not that I know of."

"Or am I a scoundrel?" snorted the young man, pacing up and down the room. "And if everything that goes on in the world is done or is said to be done for the sake of mankind—every calling, every science—or isn't it so?—what sort of a physician is that that has no respect for mankind! If I am to respect the human being in myself and in others, I cannot be entirely irreverent toward a dead body. God knows, I cannot! And if I despise the dead body like a—like a—I don't know what, then the living body is—mere dough! Yes, father, yes! Then I renounce medicine and shall become a soldier, or a hermit, or any arabesque in society."

The old man took a deep pull at his pipe and looked at his son with a smile. He even nodded his head a little. "Now I really begin to see clearly, Adalbert, that you were born for a physician."

"I can't scream louder," replied the youth, "if you don't understand me now — — —"

"Ah, how well I do understand you, my son! They write to a hospital: Request for three bodies, female if possible, at six florins. Good. The boxes come and are opened. The servants load the stiff, naked body upon his shoulder as a butcher carries a dead hog. On to the ice with it! The extremities upon the dissecting-table for the first-year students, the trunk for— "

"Please don't, father, it is horrible."

"It certainly is not poetical, my child. But it is necessary. Are young people to study anatomy on manikins? Or is this science really unnecessary? Does it only serve to satisfy idle curiosity, or at best the perfection of knowledge, and practically has the physician, who of course cannot take his patient apart like a clock, no use for anatomy? Is it possible that you have been taken by such silly phrases as these?"

"Indeed, I have not! The most thorough study of the human body, not in books, but in practice, is the first requisite for a physician. Certainly, that is clear."

"Well, then, young gentleman, what do you want?"

"Another profession."

"Since you are so delightfully inspired for the dignity of humanity,—what profession do you mean, which is so entirely filled with respect for others? Politics, perhaps? Or stock-broking? Name a calling, please, which demands greater sacrifices on behalf of mankind than that of medicine. One of these sacrifices, for instance, is so great that my young medical student is about to desert his colors because of it. Because out of respect for human kind he is repelled by the thought of making examinations of human bodies. Moreover, my boy," added the old man, laying his pipe on the table, "I had precisely the same experience thirty-five years ago that you are having to-day. My feeling the first time I entered the dissecting-room was one of rebellion. The brutality of the performance, and besides many a jest of thoughtless boys with the bodies, and the vulgarity of it all! Mere butchery! And these 'subjects,'—were they not human beings who a few days before had been living and suffering like ourselves, animated like us by the same ideals, spurred by the same 'demons'! This dead man to whom I am applying the knife mechanically,—is not some mother-heart weeping for him? Or some inconsolable widow, or a deserted orphan? How faithfully this body may have been nursed, how modestly veiled and guarded! And now! On every highway the hurrying crowds bare their heads for a moment when a funeral passes along; the cemetery is a sacred place in all the world, even when all that rest in it are strangers to us. Everywhere the dead are respected, but not in the dissecting-room. A joyful 'Ah!' runs through the ranks of physicians and students, if the cadaver reveals an abnormity from which a human being had suffered untold misery and finally perished. And when I saw how they buried into the vitals,—Adalbert, I felt their knives in my own breast. And I felt for the outstretched dead, thinking: If that were my father, or my brother, or my son! So it came about one day that they carried me out of the hall in a swoon — —"

"And yet you went back?" the youth exclaimed.

"And yet I went back," replied the old man calmly. "I thought: Consider, if you think that there is too little reverence in the dissecting-room, you must simply carry some into it. At least for your own personal use. Many a calling is sadly vulgar, yet man can consecrate it. For coarseness in general, abominable, despicable coarseness, you will never be able to banish from the world. There are vulgar creatures everywhere, even in the temple of knowledge; and men of refinement, even in workshops and mines. The right man consecrates his calling and his work himself. Even if the work is only for money and property, for worldly vanities, man can by a good thought give it a noble meaning. The miner, as he goes down into the earth, says: A happy return! The peasant who sets plough to the sod, says: In God's name! The sailor puts out to sea with an appeal to Mary! So they all have their phrases and their prayers with which they refresh their hearts lest they perish and turn to stone. The young physician, of all persons, must not let his heart perish and turn to stone; he needs it too much for the suffering

brothers and sisters to whose welfare he has consecrated himself. And so I, too, devised me a phrase, a prayer, for the dissecting-room. It did me good service."

"May I know it?" asked the son.

"You shall know it, Adalbert; you should have hit upon it yourself. You can interrupt your promenades through the room a moment and listen to me quietly. It is a very short lesson. Listen. When I entered the room, and before me on the table lay the form with the dull, yellow, waxy gleam, stark naked, cold as clay, clean shaven, the sunken eye fixed, the features expressionless, robbed of all humanity—then I thought: 'Thou dear, fortunate dead man! While the most of thy kind must be given over to the earth straightway, thou art chosen to be useful to men even in death! Through thy remains, before they turn to ashes, the flames of knowledge and intelligence will be kindled, of power and performance for the common weal, so that from thee, thou dead body, new life shall pass into the limbs of the sick. Thou art chosen to contribute to the welfare of humanity. I honor thee!'—Behold, my son, this thought made me strong. Protected by this thought, my heart escaped the danger of growing brutal in the dissecting-room, and thus protected, I think I saved for the sick-room what little idealism I had."

"That sounds different," said the student. "Perhaps I will change my mind after all. But why doesn't the professor from his desk talk of these matters?"

"Why, there has to be something left for the father to say."

SOME EXTRACTS FROM A PAPER ON ARSENIC.

BY WILLIAM MURRELL, M.D, F.R.C.P.

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Arsenic, or to speak more correctly, arsenious acid, is not only a powerful poison but is a valuable remedial agent.

The Aqua Tofana made and sold by the iniquitous Tofana or Tophiana, who is supposed to have poisoned with it more than six hundred people, including two popes, Pius III. and Clement IV., was made by rubbing white arsenic into pork and collecting the liquid which drained from it during decomposition. It is probable that in the process a ptomaine or cadaveric alkaloid was formed possessing properties of the highest degree of toxicity. Long after Tofana's death it continued to be made at Naples and to be distributed secretly throughout Italy. It was used by Hieronyma Spara, an old fortune-teller who was presidentess of a society of young married women whose diversion it was to poison their own and other women's husbands. Marie de Brinvillier's poison contained arsenic, and it was the active principle of the *poudre de succession* or inheritance powder for which at one time there was an extensive demand.

In more modern times the drug when used for criminal purposes has usually been obtained by washing it out of "fly papers." The secret

assassin has some difficulty in obtaining so deadly a poison by open purchase, for in most countries it is enacted that arsenic must not be sold retail unless mixed with a certain proportion of either indigo or soot to color it.

Arsenic enters largely into the composition of various articles of domestic economy and was at one time a constant constituent of colored wall paper. It is often added to common candles to give them a wax-like appearance. It is used in the binding of books, and the dust which collects on the top of the book-cases in libraries often contains considerable quantities of arsenic. It is a frequent constituent of the outside wrapper in which cigarettes and tobaccos are sold, and it is also used in coloring carpets, advertisement cards, playing cards, India-rubber balls, dolls and children's toys, artificial flowers, sweets, hat linings, gloves, and a number of other instances. There is an impression that arsenic is a common ingredient of the "face powders" used for the complexion, but in conjunction with my colleague, Dr. Wilson Hake, I have recently looked into the matter and find that although zinc, bismuth and lead are often present, arsenic is uniformly absent.

Cases of chronic arsenical poisoning are very common, and too frequently are not diagnosed. The patient may suffer from nausea and vomiting, loss of appetite, diarrhœa and pains in the abdomen, or conjunctivitis may be the prominent symptom. Not infrequently he develops a cough, spits blood, suffers from periodical attacks of dyspnea and rapidly wastes away. This condition has been more than once mistaken for phthisis even by well known clinical physicians and pharmacologists.

The injury to the health which has resulted from the use of articles of clothing containing arsenic has more than once given rise to actions for compensation. The most recent trial of this description was held only a few weeks ago at Croydon, Eng. A lady purchased at a store some green glazed linenette, and in the process of making it up suffered from symptoms which were attributed by her physician to arsenic, the drug being subsequently detected on analysis.

As arsenic is in such common use its quantitative estimation is a matter of considerable importance. The tests usually employed are Reinsch's and Marsh's. It is commonly supposed that they are of extreme delicacy and accuracy, but of late considerable doubt has been thrown on the correctness of the statement. For example, in the linenette case to which reference has been made, Dr. Bernard Dyer found that the fabric contained one two-hundredth of a grain of arsenic in the square foot, or approximately one-twentieth of a grain in the square yard, whilst Dr. Stevenson, the official analyst to the Home Office, found only one-thousandth of a grain in the square yard. Dr. Stevenson employed Marsh's test, and Dr. Dyer commenting on the results obtained, says: "Under some circumstances not yet well defined there is in my experience some degree of uncertainty in Marsh's test when it is relied upon for the quantitative estimation of such very minute quantities of arsenic as these." It is difficult to over-estimate the importance of the statement from so well known an authority, considering the frequency with which arsenic is used for criminal purposes and the absolute reliance which is usually placed on expert evidence.

TUBERCULOSIS AND CLIMATE.

BY E. T. CAMPBELL, M.D., TABOR, IOWA.

Nothing within the whole range of medicine has given the physician more discouragement and heartache than tuberculosis; and nothing does he hail with more joy than a treatment which gives promise of better things—that gives promise that that dreaded disease may be stayed or modified if not cured. Not a drug listed in our pharmacopœia but has had its brief day as a champion for first place in the cure of this disease, only to be retired after a short time to the place it formerly occupied; some to appear for a second trial, with like results All the solids, all the liquids, and all the gases have in turn been "weighed in the balances and found wanting." Many, it is true, have won permanent places as aids to alleviate certain conditions or symptoms, but one and all have been denied first place.

The discoveries of Koch mark the beginning of a new era in the battle with this prince of destroyers. Founded on this established truth, investigation and experimentation have established a more rational line of treatment. In place of the empirical administration of medicines, we now have a definite object in view, viz., the destruction of the bacilli and the repair of the damage done.

Until recently the disease-resisting power of the system has not been sufficiently considered, the germicidal properties of the white blood corpuscles have been overlooked; but now the plan of treatment is to assist nature in her battle with the countless millions of enemies which are besieging the portals of our being, and the question now is: "In what way can we most quickly and safely help nature to shake off her enemy and repair the breach?"

Our most efficient means at present are climate, hygiene and diet. We find that in low, moist localities, with great extremes and sudden changes of temperature, great humidity, and dearth of bright sunshiny days, this disease works deadly havoc; whereas in localities of higher altitude, more sunshine, lower humidity, less variation and fewer degrees of temperature, and better drainage, the disease is arrested and often cured.

Too great an altitude is not to be advised, as it is dangerous save in incipient cases in which there is no associated heart trouble, an altitude of from fifteen hundred to two thousand feet above sea level being better in a vast majority of cases than much higher altitudes.

A uniform temperature also is to be sought for, not too cold in winter or too hot in summer, and freedom from sudden changes and a large proportion of bright sunny days.

Above all, climate must not be taken in given doses, like medicine, but continuously, *ad infinitum*. Those affected should seek a desirable climate to live in, not to get cured in, for innumerable subjects apparently cured have returned to their former homes only to have the disease return.

One essential factor in the climatic cure of tuberculosis has been touched on only slightly, and that is the presence of ozone in the atmosphere of those elevated regions. Ozone we know to be a powerful disinfectant and respiratory stimulant. In a recent paper read before the Iowa State Medical Society, Dr. Braunworth spoke of the purifying effects of the electric arc light, attributing this effect to the light itself, whereas the purification was due undoubtedly to the ozone produced by the electric current.

It is a most important factor in the treatment of any disease, and especially tuberculosis, that the patient's mind be as free as possible from all worry; and patients with limited means cannot gain the advantages of curative climates when the expense thereof is beyond their means, or so great as to be a source of worry and anxiety to them.

In a meeting of the New York State Medical Society, one member suggested that in the place of consumptive hospitals we have consumptive farms; and this will surely prove the keynote to success in the treatment of this disease. To live continuously in the pure ozone-permeated air, with good wholesome food, water and plenty of exercise, cannot but work wonders.

And the exercise should be of a constant, not periodical character. If possible, the patient should be continuously in the fresh air, attending to work about a farm if possible; if not, then wandering at will over the hills, botanizing or geologizing; or bent upon some object. Above all, let the mind be constantly diverted from himself towards some interesting occupation.

Hygiene, in conjunction with a favorable climate, is essential. Frequent bathing and well-ventilated rooms both day and night, good wholesome food, pure water, and good drainage, combined with a suitable climate, will prove our most efficient means of combating this most dreaded disease.

CUTANEOUS ACCIDENTS.—The burns of the stage of rubefaction and sometimes of slight vesication, produced by exposure to the rays of the sun, of persons unaccustomed to outdoor life, are common to summer tourists. The recognition of the fact that this accident is a genuine burn renders its treatment readily understood. The numerous cold creams and other unguents sold in the apothecary shop serve well enough, but nothing can be better for general use in these cases than the carbolated petrolatum everywhere available.

The same may be said of the lichen tropicus or "prickly heat," to which delicate skins are subject in hot weather. The intense itching of this trifling but exceedingly annoying affection is also usually readily brought within the limits of endurance by carbolated applications. The little jar of carbolated petrolatum is a most advantageous constituent of every tourist's summer outfit.

The more severe inflammation produced by contact with the various species of rhus, the "poison ivy," the "poison oak," and the "poison sumach," is often temporarily treated with advantage in the same manner. These injuries, however, pre-eminently come under the category of mat-

ters in which the "ounce of prevention" is particularly applicable, and it is well for persons going into the country for an outing to be able to distinguish them from the harmless growths which they resemble. The beautiful woodbine or Virginia creeper is distinguished from the venomous "poison vine" by the fact that the leaf of the harmless growth consists of five leaflets given off from a common stem, while that of the toxiferous plant has but three leaflets upon the main stem. The "poison oak," or rhus toxicodendron may be detected by the same conformation of leaf. The "poison sumach," or rhus venenata, which produces a cuticular inflammation similar to those already mentioned, may be distinguished from the ordinary harmless sumach by the fact that, instead of bearing close bunches of red berries at the end of its branches, its fruit consists of slender clusters of small white berries given off from the axils of the leaves.

THE DORENWEND TRUSSES AND ORTHOPÆDIC APPLIANCES.

Oftentimes physicians meet with cases of rupture and deformity which cause much anxiety; it being quite difficult to secure appliances to suit perfectly. It will be a relief and a pleasure to learn that by submitting a diagnosis of the case to Mr. C. H. Dorenwend, of the Dorenwend Truss Co., Toronto, appliances will be designed and constructed to meet all requirements. Mr. Dorenwend is a thorough genius and has developed ideas in mechano-medical and surgical work, which places him as worthy of the confidence of every physician. We do not hesitate to say that his trusses are the best we have seen. They combine so many improvements over the average, that physicians should instruct hernia patients to wear them. Perfect security and comfort is assured in every case. Mr. Dorenwend also makes a superior line of appliances for the correction of club feet, bow legs, knock knees, etc. His manner of preparing plaster jackets is certainly a good scheme. The practitioner applies the plaster in the usual way, and after it becomes hard it is sent to Mr. Dorenwend, he covers the whole cast with a light, strong material, which prevents cracking and crumbling, besides, is much easier on the patient. We recommend physicians to communicate with Mr. Dorenwend whenever anything in these lines is required, as we are confident he can give the best of satisfaction.

THE TREATMENT OF DIABETES.

Moussé has arrived at the conclusion, *Sem. Med.*, that antipyrin should not be employed in diabetes. He has used it with the object of diminishing the excretion of sugar, uric acid and urea, and found that the diminution was very evanescent. Beer yeast proved of no service in his hands. The same observation could be made to the use of pancreas in the fresh state. The real treatment of any service in diabetes is diet. If drugs are used their effects should be carefully watched, as they are often harmful. Moussé noted that each time he had given pancreas it had appeared as if loss in weight were retarded.

PAHOTLOGY AND BACTERIOLOGY.

IN CHARGE OF

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SERUM DIAGNOSIS IN RELATION TO TYPHOID FEVER.

Drs. Wyatt Johnston and D. D. MacTaggart (*Montreal Med. Jour.*, March, 1897,) reports some details concerning technique, which they find necessary in order to insure successful results in serum diagnosis by the dried-blood method, with which the authors have now treated over 500 samples of blood.

The results obtained were as follows:

1. Out of 129 cases, which there were good reasons to regard as true typhoid, exclusive of a few cases where the first samples were taken at a very early stage and no re-examinations could be obtained, and also a few cases first examined late in convalescence, the authors have met but one apparently genuine case of severe typhoid, which, when re-examined under satisfactory conditions, did not give a decisive reaction by the dry-blood method, and this one also gave no reaction by the serum method. Occasionally the first appearance of the reaction is delayed beyond the end of the first week.

2. The authors have never met a well-marked reaction under conditions where there were not strong reasons for believing it to be due to typhoid.

3. In a few cases where the result of the blood-examination remained in doubt the mild type of the fever made an accurate clinical diagnosis impossible. In such cases, the authors believe bacteriological examination to be the most exact method of procedure.

4. The authors have not yet met a case of typhoid where a decisive reaction was obtainable by the serum method and not by the dried-blood method.

5. The authors found that pseudo-reactions may be avoided by attention to the character of culture-media. By using an attenuated or quiescent stock-culture grown at room temperature, and transplanted at intervals of about one month, a suitable degree of sensitiveness was obtained. From such stock-cultures a 24-hour bouillon at 37° C., with a moderately diluted blood-solution, or serum, would give prompt and decisive reaction within a few minutes in the case of typhoid patients, while concentrated solutions of non-typhoid blood, or serum, were found to give no reaction, even at the end of twenty-four or forty-eight hours; hence, estimation of the amount of dilution is not necessary for ordinary diagnostic work.

The writers have stated elsewhere that highly active cultures, if left for a few hours longer than usual between the times of transplantation,

rapidly undergo involution changes, and while in this condition are far more liable to show agglutination than was the case with the same culture tested a few hours earlier. Bouillon-cultures which have stood long without transplanting, show a tendency to spontaneous partial clumping, which is quite absent during the first twenty-four hours. For this reason they prefer to use 24-hour bouillons, which are free from sediment, for the test. The peculiar disintegrations obtained by Pfeiffer in typhoid cultures, placed directly in the peritoneum of a specially immunized animal, do not tend to occur where the serum is tested in vitro by the hanging-drop method. With blood-solutions, however, this peculiar phenomena is frequently witnessed. The change is more liable to occur in cultures some days old than in young cultures, and more, perhaps, with attenuated than virulent cultures. It does not occur with all samples of typhoid blood, and is not well marked in very dilute blood-solutions.

Quantitative estimation of the degree of dilution in the case of blood-solutions is possible by hemometry as well as by making direct measurements. With samples of freshly dried blood, sufficiently accurate observations can be made to express the degree of dilution in multiples of 10—($\frac{1}{10}$, $\frac{1}{20}$, $\frac{1}{50}$, etc.). The exact estimation of the dilution, while interesting for scientific purposes, is not necessary for the practical purposes of the test, if attenuated cultures are used, and the establishment of fixed arbitrary time limits, as recommended by Grünbaum, seems only of use in avoiding pseudo-results, due to the use of highly virulent cultures.

Owing to the greater sensitiveness of blood-solutions as compared with typhoid serum, there is a greater tendency to pseudo-reactions if active virulent cultures are used, than is the case in working with serum. Cultures which exhibit darting movements in hanging drops are too sensitive for the dry-blood test. Those cultures having a quiet but rapid gliding motion in hanging drops have given uniformly good results. If the movements of the cultures become sluggish, one or two daily trans- plantations at body temperature will make them more active and sensitive.

Clean preparations containing very little fibrin can readily be obtained if care is taken not to stir up the film of blood-clot, and to use plenty of water for dissolving. The routine method of testing employed by the writers is to place a large drop of water from a capillary pipette on the film of dried blood and let it stand for a minute or two. A loopfull of the solution so obtained is taken *from the top of the drop* and mixed with a loopfull of the bouillon-culture, or may, if desired, be diluted further.

The reaction with the colon bacillus can be tested with ease by placing a duplicate drop of blood-solution or serum on the cover-slip with the drop to be tested by typhoid culture and mixing it with a drop of colon-bacillus culture. Pseudo reactions can be avoided by using stock-cultures kept at room temperature, and transplanted infrequently. Test cultures grown in bouillon from the stock at room temperature for twenty-four hours are free from scum or sediment, and give reliable results.

The authors formulate their conclusions thus:

The difference in reaction observed between typhoid blood-solution and blood-serum is not simply due to varying intensity, but to an alteration in the relative prominence of the agglutinative, paralytic and disin-

tegrative phenomena which constitute the reaction. The extent of this difference also varies with the virulence of the culture, but the difference probably depends also on the presence of part of the specific substances elsewhere than in the blood-serum.

Blood-solution has a greater capacity than blood-serum for producing the disintegrative (bacteriolytic) changes described by Pfeiffer. Descriptions of this phenomena are conspicuously absent from the many recent accounts of the reactions with typhoid serum as observed in hanging drops.

The paralytic effect is apparently more marked with serum than with blood-solutions.

Agglutination without stoppage of motion is more readily occasioned in virulent cultures by blood-solution than by serum, and does not indicate existing typhoid.

It appears preferable that for the dry-blood method only attenuated cultures should be used. These have the advantage of being more easily kept in readiness than virulent cultures, and are less sensitive to changes of temperature. With the serum method, virulent cultures give prompt results. Dried blood-serum can be readily obtained and transmitted to the laboratory by pushing aside the edge of a blood-drop which has clotted for a few minutes but has not dried, and collecting the serum beneath it on the tip of an ivory vaccine point. This does not, however, give a quantitative result.

For ordinary diagnostic purposes, the simplicity of the method as originally described does not require modification, provided attenuated cultures are used.

A drop of the solution obtained from a dried typhoid blood-drop, mixed with a drop of the culture, will give the reaction promptly, without any special attention to the degree of dilution. In order to obtain the best results, it is well to dilute freely, and especially to avoid having a sticky solution of syrup-like consistency.

In cases where the clinical type strongly resembles typhoid, and where the serum does not give the typhoid reaction, a decided reaction with cultures of the colon bacillus may explain the symptoms.

The authors' results with the dried-blood test have been very satisfactory, giving uniformly positive results with genuine and well-marked typhoid cases, and not reacting with non-typhoid bloods when attenuated cultures were employed.

Although the use of serum undoubtedly enables the results to be recorded and compared with greater scientific precision, dried-blood answers just as well for routine diagnostic work.

The alterations in reaction, induced by very slight modifications of the manner of testing, help to explain differences in the results reported by experienced and careful observers. With the same blood and culture, the amount of dilution possible largely depends on whether plain bouillon, bouillon culture or water is used for diluting. The authors do not think that anything less than complete clumping and total arrest of motion, obtainable by the dry as well as the moist test in a young attenuated culture, should be regarded as a typical reaction.—*American Medico-Surgical Bulletin.*

R. KELLER, in the *Deutsche Archives für Klin. Medicine*, Bd. LVIII., p. 386, reports a case of malignant endocarditis of the pulmonary valves after gonorrhœa. Reference is made to the case of Blamer and Thayer, of Baltimore, from the blood of which the gonococcus was obtained in pure culture during life, and confirmed at autopsy.

Keller's case is from the clinic at Freiburg. Four weeks after the onset of the attack of gonorrhœa, there were rheumatic pains in the joints of the lower extremities, and later there appeared the evidences of an endocarditis of the pulmonary valves. Death occurred after six months, and at autopsy a warty and ulcerated condition of the pulmonary valves was found, with thromboses in the left ventricle, and emboli in various parts.

In the pericardial fluid, in the growths on the pulmonary valves, and in the kidneys, streptococci were found. No gonococci were present. The author considers the inflamed urethral mucous membrane the point of entry for the infection, there being no other primary focus to be found.

R. PIAGET.—The means of defense of the nasal fossa against bacterial invasion, *Ann. des Malad. dé l'oreille, 1897, No. 2.* The author has found on examining the nasal cavities of healthy persons, that only at the entrance are micro-organisms to be found in any number. Thomsen and Hewlett have shown that in the anterior quarter, on the extremity of the inferior turbinated bone and septum, but few bacteria are to be found, and that in the posterior part of the nose the mucous membrane is wholly free. In killed animals (dogs, rabbits) the nasal secretion, or small bits of the mucous membrane, in 50% of the cases, proved to be sterile or containing very few bacteria. Further, the author studied the bactericidal power of the nasal mucus. He succeeded in showing that the power of growth of the anthrax and diphtheria bacilli was suspended under the action of the normal nasal secretion. In a similar manner, but not so markedly, was this effect seen in the case of the staphylococcus pyogenes aureus, the colon bacillus, typhoid bacillus and streptococcus pyogenes.

The author believes that the nasal cavity, under normal conditions, is an aseptic space.

H, C. P.

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NOSE AND THROAT.

IN CHARGE OF

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SOME CRITICAL AND DESULTORY REMARKS ON RECENT LARYNGOLOGICAL AND RHINOLOGICAL LITERATURE.

BY JONATHAN WRIGHT, M.D., BROOKLYN.

The fact that many people with normal upper respiratory passages are found to have in the secretions of these cavities the diphtheria bacillus of Loeffler is one of a series of observations which is slowly tending to modify our earlier conceptions of the relative importance of bacterial influences in the ætiology of diseases with which they are associated. Several years ago the subject of fibrinous rhinitis was extensively discussed in its relation to the diphtheria bacillus and to clinical diphtheria. At first it was supposed that the micro-organism was not present in this comparatively benign affection, but later observations show that in spite of the difference in the clinical histories of these cases from those of diphtheria of the nose the bacillus is found in over half of them. Recently several articles have appeared which carry us a little further. Meyer has lately reported to the Berlin Laryngological Society that he has found in a membrane produced by the galvano-cautery very virulent diphtheria bacilli. Out of twenty-two cases of fibrinous rhinitis examined, virulent bacilli of diphtheria were found thirteen times, streptococci and staphylococci nine times.

Vansant reports the results of a number of bacteriological examinations made of the nasal mucus of patients with various intranasal lesions: "The examination embraced a hundred and thirteen cultures of specimens taken from a hundred different patients. It showed the presence of the diphtheria bacillus in no less than thirty of the cultures examined, these cultures representing the discharges found in twenty-six different patients.

For each disease examined, the number of cases with diphtheria bacilli was as follows:

Eleven of twenty-five cases of atrophic rhinitis; three of sixteen cases of chronic purulent rhinitis; five of fourteen cases of rhinitis; three of seven cases of nasal syphilis; one of four cases of acute rhinitis; three of thirty-one cases of hypertrophic rhinitis; none in two cases of disease of the accessory sinuses; none in the one case of fibrinous rhinitis.

Possibly the author may "have mistaken the false for the true diphtheria bacillus."

Pluder gives perhaps the best review of fibrinous rhinitis which has been published lately, reporting six cases, the membrane in five of which was examined microscopically and found to contain the Loeffler bacillus. He is of the opinion that fibrinous rhinitis is a mild form of nasal diphtheria. The difficulty of classifying disease by ætiology is here illustrated. If we may have a fibrinous inflammation of the mucous membranes without the Loeffler bacillus, which I believe no one denies; if we may have the Loeffler bacillus on mucous membranes without diphtheria, which has been repeatedly demonstrated, since we have all degrees of severity of diphtheritic inflammation with the bacilli, which is a common observation, since we find virulent bacilli in mild cases of diphtheria, it certainly is a little difficult for the ordinary mind to regard the Loeffler bacillus as the most important factor in the ætiology of diphtheria. Apparently the most important factor in the ætiology is a systemic or intrinsic one. The great success of antitoxine in the therapy of diphtheria would suggest that a person has diphtheria because he is temporarily deprived of the antitoxine power of his own tissues. We may perhaps be allowed to conjecture that this is applicable to all diseases associated with the presence of bacteria. This is an old contention and scarcely worth detailing to this length were it not for the fact that even yet it is lost sight of far too frequently. It applies quite as closely to the question of the ætiology of sepsis and tuberculosis and pneumonia, except that we have not as yet the corroborative proof furnished by the extrasystemic manufacture of their antitoxines. It is not reasonable to suppose that Nature works in such a bungling way as to keep stored up in her magazines a separate antitoxine for every morbific germ. This is not according to what we are accustomed to find out about the economy of Nature. Any further speculation in regard to this point would be only vague surmise as yet.

Vedova, who a year or two ago, with Belfanti, reported the treatment of a number of cases of ozænic atrophic rhinitis with diphtheria antitoxine, because they found pretty constantly in the secretions the false diphtheria bacillus, contributes a paper to the *Archivio Italiano di otologia* (anno v, 1897) Upon the Differential Diagnosis between Chronic Rhinitis and Ozæna, in which he says: "I have studied bacteriologically a hundred and twenty cases of ozæna which I could collect from nearly all the dispensaries of our specialty in Milan. From the aggregate of this bacteriological study I am able to make the following assertions:

"1. The false (*simildifterico*) diphtheria bacillus is always present in cases of ozæna.

"2. In certain forms of ozæna the false diphtheria baccillus is alone, or almost so, and in such abundance and prevalence over other micro-organisms which may be present in the ozænatous crusts as to render very easy its isolation in characteristic colonies.

"3. In other forms the false diphtheria bacillus is accompanied by the *Bacillus mucosus* (Löwenberg-Abel), which is united with it in scanty proportions.

"4. In other forms the false diphtheria bacillus is very scanty and the *Bacillus mucosus* prevails to a marked degree, so much so as to render impossible the isolation of the former."

In conclusion, he says:

"All the above considerations and deductions made in the scientific and clinical field of rhinology lead to the following opinions and assertions:

"(*a*) The false diphtheria bacillus is a direct cause of chronic fœtid atrophic rhinitis, which, however, may also be due to other causes, at present unknown, and assume different clinical characteristics which may be confused with the rhinitis studied by us.

"(*b*) In the diagnostic field chronic fœtid atrophic rhinitis is differentiated by bacteriological examination, and by its not reacting in any beneficial manner to methods of treatment thus far employed.

"(*c*) The antiozænatous serotherapy is specific for chronic fœtid atrophic rhinitis due to the false diphtheria bacillus, and therefore, provided that it is applied in cases not far advanced and complicated by multiple infections and inflammations of the accessory sinuses, we may reasonably expect good results not attainable by other methods of treatment."

It is impossible to judge of the merits of this method of treatment of ozæna, but whatever they may be, we see here the tendency of the human mind to grasp at new and mysterious remedies on insufficient evidence of their efficacy, with a faith unshaken by considerations that should occur to every one. In the first place, it has not been proved that the false diphtheria bacillus has any other than a morphological and biological *resemblance* to the true bacillus, producing so far as we know no toxic effects, and therefore it can not be expected to react to the antitoxine produced by the toxine of the true bacillus. In the second place, the proof adduced of the ætiological relation of the bacillus to ozæna is shadowy and insufficient. In the third place, a specific for ozæna should cure the far-advanced cases as well as the incipient ones, since Nature at middle life seems to cure the most of them without trouble. It is not a mortal disease, and therefore can not be classed with cases of diphtheria and phthisis pulmonalis, so far as the argument goes of failures in treatment being due to "not seeing them early enough."

If ozæna is of bacillary origin we must look for the organism in the tissues. The idea of toxines saturating the mucous membrane, but engendered by the bacteria in the secretions, may occur to us, but we are far from any proof of such a hypothesis.

Lautmann has reported the treatment of a number of cases by antitoxine and seems to regard the method as having a hopeful future, but an analysis of his cases would hardly seem to bear out his favorable view of the matter. He had several unpleasant instances of the occasional after-effects of the injection of diphtheria antitoxine. He seems to regard atrophic rhinitis as having in its ætiology an element of trophoneurosis.

Aronsohn, in the *Archiv für Laryngologie und Rhinologie* (Bd. v, p. 210), contributes a paper to the much-debated question of primary tuberculosis of the larynx. He urges its frequency, and cites histories of several cases in support of his contention. He severely criticises those who

doubt its occurrence and those who deny its frequency. So far as I have been able to gather from literature, there are very few who deny the possibility of its occurrence. Indeed, this assertion would be unwarranted, for the author quotes three cases in his tables—those of Orth, Pogrebinski and Demme—in each of which tuberculosis was found in the larynx on autopsy and not in the lungs. His tables contain twenty-nine cases—the three above mentioned, seven in which autopsy showed tuberculosis of the larynx and of the lungs, but in which he considered the laryngeal lesion the primary one. The report of nineteen other cases included no post-mortem examinations, but were cases in which the diagnosis was entirely dependent upon the clinical history and the physical signs. This, of course, is a very unsatisfactory sort of evidence, and a strict criticism must exclude all but the cases in which the lesion was found on autopsy in the larynx and not in the lungs. Since, even in cases that die of pulmonary phthisis, a laryngeal lesion is only found once in ten to thirty cases, this is not an unreasonable criticism, but, on the other hand, very rarely does an opportunity occur to make an autopsy in a case of tubercular laryngitis in its early stages, the only period at which we should expect to find the lungs free. The matter may be summed up in a few words. No one can deny the rare occurrence of primary laryngeal tuberculosis. No one can prove its frequency.

In connection with this subject the paper of Massei, in the *Archivio Italiano di otologia* (anno v, 1897), upon the diagnosis of laryngeal tuberculosis may be read with profit. He thinks that slight and sometimes primary forms of laryngeal tuberculosis are frequently not recognized by even the experienced laryngologist. They may be taken for cases of simple catarrhal inflammation, obstinate in its course. Exclusion of syphilis by the results of specific treatment is always necessary. He urges also the advisability in some cases of removing pieces by curettement for microscopic examination, or even the intraperitoneal inoculation of susceptible animals. I doubt if this mistake in diagnosis on the part of the experienced laryngologist is of very frequent occurrence, but he points to the very evident fact that if we are to attain good results from any method of local treatment it is in these incipient cases. Massei maintains his skepticism as to the efficacy of any form of local surgical treatment in the vast majority of cases, in which I confess I am in accord with him. Skepticism in the therapy of any desperate disease is an ungracious and unpopular attitude of mind, but keeping the truth of facts constantly before us will frequently save us from many dangerous and misleading illusions, however eager we may be to entertain them from an ardent desire to benefit suffering humanity. The surgical treatment of laryngeal tuberculosis is thus referred to by the distinguished Italian laryngologist:

"But this skepticism, which was opposed by me and by others, to the enthusiasm of the brave pioneers who held aloft the banner of surgical therapy, is not an unreasoning opposition to his humanitarian cause; on the contrary, it has served to put us all in accord as to the limits within which local treatment is possible, and as to the criteria which should govern the indications for it."

In these reviews I have repeatedly deprecated enthusiastic claims as to the results of many forms of local treatment of laryngeal tuberculosis. Unfortunately, we can not in medicine, for obvious reasons, always follow Pestalozzi's famous maxium of "Try all things." We are only justified in trying those things against which our reason does not revolt. Tuberculosis at first may be a local disease, but when it comes under observation for treatment it is, as a rule, a general affection. We know that climatic treatment is the most successful. It is so because it apparently produces in the patient's system a tuberculosis antitoxine. When man learns to manufacture that antitoxine we shall have reached the beginning of tuberculosis therapy—it may be Maragliano's serum, or it may be Koch's tuberculine, or it may be something else—but bacteriology, if it has taught us nothing else, certainly should lead us to expect nothing radical from the knife or from drugs. It can not be denied that the surgical treatment of the tuberculous larynx has much in it to recommend it to us, as indicated for the relief of certain symptoms, such as obstruction and pain. To excise inflamed tissue removes the source of much irritation and the terminal filaments of sensitive nerves involved in the process, but it is possible for any one to believe that it removes the tubercle bacillus or renders the pabulum on which it thrives in the tissues unfit for its further development?

The question of tuberculous infection of lymphoid tissue in the fauces and the nasopharynx continues to excite considerable interest abroad. Its interest should not be limited to the narrow domain of laryngology, but the significance of recent observations should be appreciated in the broader field of hygiene and of systemic immunity. The somewhat extreme tendency of regarding the occurrence of tubercle or of the tubercle bacillus in the hypertrophied faucial and pharyngeal tonsil as frequent, and of immediate serious import to the patient when it is found, has not been supported by the later reports on the subject, because in the vast majority of cases it has been impossible to trace the outbreak of any systemic or pulmonary lesion to it. I have gone into the subject more extensively in a recent article in this journal, and have only to add here that it seems, from the evidence thus far presented, probable that the cases which end in disseminated and fatal phthisis do not have their origin in the lymphoid structures. Although tuberculosis may be first observed there in rare cases, it seems probable that the primary lesion has really been elsewhere and usually in the lower respiratory tract. Since the lymphoid tissue in the nose and throat is undeniably more exposed to infection from the air and food than are the pulmonary tubes, we are driven to the conclusion that there exists in the lymphoid elements of the respiratory mucous membrane a resisting power to the *Bacillus tuberculosis* far in excess of that offered by the pulmonary tissues, or we must conclude that the road of infection is by the way of the lymph, or blood-vessels of the intestinal tract in cases of phthisis pulmonalis.

Mouret, in a case suffering from similar lesions of the larynx and lungs, found tubercular tissue in the tonsils. Out of eighteen cases, Ruge found tuberculous tonsils in six. Of these, five had well-marked

pulmonary tuberculosis and presented every evidence that the pulmonary lesion was the primary one. The remaining one had large tonsils and subsequently cervical spondylitis, which was evidently tuberculous. The tonsils were then removed and found to be tubercular. Ruge thought the tonsillar lesion was the primary one. This it seems to me was not at all warranted by the facts as narrated by the author. None of these cases, I imagine, are to be considered as surely primary in the lymphoid tissue, but probably were secondary to other lesions. This secondary infection has long been recognized as of frequent occurrence. The chief interest at present is centred around the lymph tissue of the throat as the port of entry for the bacillus, where, establishing colonies, it may send forth by the lymphatic and blood estuaries emigrants to the lungs or elsewhere. In regard to this subject, no paper which has appeared in the last year or two in laryngological literature so well deserves careful reading and consideration as the one contributed to the *Archiv für Laryngologie* (Bd. iv, Hft. 3) on Primary Latent Tuberculosis of the Hyperplasia of the Pharyngeal Tonsil, by Pluder and Fischer. They review the literature of the subject, and give from it the following significant table of positive results obtained by others in examining the lymphoid tissue in this locality for evidences of tuberculous infection, together with their own results: Lermoyez, in thirty-two cases, twice; Gottstein, in thirty-three cases, four times; Brindel, in sixty-four cases, eight times; Pluder and Fischer, in thirty-two cases, five times.

The criticism of Cornil, that the tubercle bacilli may exist on the surface and in the crypts of tonsils and adenoids, weakens the force of the positive results attained through animal inoculation by Dieulafoy and others, but in all the cases referred to above actual demonstration of tubercle by the microscope was noted. It will not be thought, hypercritical, by those who know most of the subject, to suggest that the diagnosis of anatomical tubercle in lymphoid structure is not always a perfectly easy matter with the microscope, and so, perhaps, it would be well only to include those cases in which the microscope identifies the bacillus in the tissues as entirely free from criticism. This is almost always a laborious and difficult task. Pluder and Fischer found it in their cases. I have looked for it in a large number of cases, but have never found it, except in Dr Chappell's case, where the diagnosis was clear from the clinical history and from gross appearances. It can not be too strongly urged, however, that these negative results do not militate against the positive observations made by others.

The peculiar value of the work of Pluder and Fischer lies in the exceedingly common-sense view they take of their own important observations and in their shrewd criticism of the works of others.

Dr. Paul Manasse, in Virchow's *Archiv* (Bd. cxlvii., Hft. 1), speaks of the occurrence of giant cells in syphilitic growths of the nose. The significance of giant cells in chronic inflammation has been the subject of considerable discussion. A case came under my observation some time ago in which a diagnosis of malignant disease of the tongue had been made and a piece excised for microscopic examination. It contained a large number of giant cells in a tissue of low inflammatory origin. The

microscopic diagnosis was tuberculosis. A section of the growth was shown me and I agreed with this opinion. On seeing the case itself afterward, however, so characteristic were the clinical history and the appearances that, in spite of the microscopical evidence, which had been pronounced by a skilled pathologist as well as by myself as tuberculous, I had no hesitation in stating my conviction that the affection was of a syphilitic nature. The result of treatment subsequently proved the correctness of this view. I have lately had under observation a case of growth in the larynx of a somewhat peculiar appearance causing marked dyspnœa. Although the growth was supposed to be tuberculous, possibly lupus, the patient was sent into the hospital and put upon vigorous antisyphilitic treatment. There was very marked improvement from the first, but in the meanwhile slight physical signs of pulmonary trouble had been found in the chest, and a few tubercle bacilli were found in the sputum. The laryngeal lesion, however, has steadily improved, but has not entirely disappeared. Otherwise the case is rapidly running the ordinary course of pulmonary phthisis. I know that this will be thought an instance of mixed infection. There is no syphilitic history. The patient is a girl eighteen years old, and if there is a syphilitic element it is in all probability an hereditary one.

In these two instances we have examples of how even the most reliable of diagnostic resources may fail us. Manasse's paper contains a warning that a microscopic examination of such tissue without a demonstration of the tubercle bacillus leaves the diagnostician in some doubt, and this doubt can only be resolved by the administration of the iodide of potassium. As I have intimated, even this means is not always satisfactory. It takes considerable experience with syphilitic and other infiltrating disease of the nose and throat to form a correct opinion as to how much absorption to expect from the use of the iodide in syphilitic disease, and how much we frequently get in other infiltrations. A week's time is often not sufficient for this differentiation. After that time, however, we do not expect a cancer or a sarcoma or a tuberculoma to continue to recede; but in the laryngeal case I have mentioned the improvement was of much longer duration, although evidently tubercular. Manasse is of the opinion that the giant cells in syphilis arise from the capillary veins by the agglutination of protoplasm holding in its substance nuclei derived from the endothelium and probably from the white blood-cells.

Moure reports two cases of empyema of the maxillary sinus in infants three weeks old, due to the premature eruption of a tooth. One was a syphilitic child. In mentioning other cases in older children, he states that transillumination is of very little value in the diagnosis. In both infants the purulent process invaded the cheek and was operated on externally.

I have been somewhat surprised to note the predilection of the Vienna laryngologists for intranasal irrigation in empyema of the antrum. They claim that a very large proportion of the cases may thus be cured, and say that even operative procedures fail to relieve the obstinate cases except after many months of treatment.

M. Lavrand, in the *Revue hebdomadaire de laryngologie* (No. 35, 1896),

reports several cases of mutism in young children who heard well and whose intelligence was apparently up to the average or above it. No one can be in general practice very long, or practice laryngology even for a short time, without meeting with such cases in children from two to seven years of age. Their parents bring them, or their family doctor sends them, to have their frenum linguæ cut because they are "tongue-tied." One never sees such cases in children older than six or seven unless there is some mental deficiency well marked in other directions. As for cutting the frenum in these cases, it is about as rational and successful a procedure as the old Scythian custom of cutting the veins behind the ears for another purpose. Lavrand recommends "patient and systematic education." This, no doubt, is successful, but a more practical, less exhausting, and probably more successful method is turning them loose to play for several hours every day with prattlers of their own age. Bashfulness and a sense of their own deficiencies often restrain them in the presence of their anxious and critical elders.

Hobbs, in the *Laryngoscope* for March, 1897, under the title of Some Amusing Instances of the Nasal Reflex, speaks of having cured one or two cases of chronic priapism by cocainizing the nasal mucous membrane. Chronic priapism is a rare affection, and, judging from two cases which came under my observation many years ago, one which resists cure by the administration of drugs. It seems to me that Hobb's suggestion is one that should be borne in mind when such a case presents itself. The intimate relation of the erectile tissue of the nose to that of the penis in many points of its anatomy and physiology, and the inter-relation of the occurrence of turgescence in the two localities during sexual excitement, lends probability to the reported success of this method of treatment.

Massei makes a very interesting communication concerning peri-tracheo-laryngeal abscess in children, having observed several cases in which small abscesses had apparently formed beneath the mucous membrane during the course of a laryngeal diphtheria, or during some other inflammatory process causing intralaryngeal stenosis and necessitating intubation or tracheotomy, during the performance of which the condition was recognized. We are accustomed to keep in mind the influence of large bronchial glands upon pulmonary lesions and symptoms. Massei points out that there exists a small group of glands at the laryngo-tracheal junction, another one at the middle of the trachea, and an inferior larger group near the tracheal bifurcation. These may involve the recurrent nerve as well as the trachea, giving rise to symptoms dependent not only on tracheal obstruction, but upon paralysis of a vocal cord. That this occurs more frequently than we recognize it seems very probable. The difficulty of laryngoscopy in children, the occurrence of a concomitant laryngitis, either catarrhal or diphtheritic, no doubt frequently hides a small abscess of one of these glands pressing between the rings of the trachea or the tracheolaryngeal junction. This may discharge before giving rise to obstruction, having caused only hoarseness if it be one of the upper group which is involved, or, on the other hand, it may cause grave and even suddenly fatal dyspnœa. I have a case under observation at present in which I suspect this trouble following an ordin-

ary coryza. These cases have not been carefully enough studied to lay down any reliable rules of diagnosis or treatment, but Massei has been wise in calling attention to an affection which needs more careful consideration.—*New York Medical Journal.*

PHARYNGEAL ABSCESS: HÆMORRHAGE: LIGATURE OF CAROTID ARTERIES.

Mr. H. H. Clutton read this paper. The case was one of very severe hæmorrhage from an abscess in the roof of the pharynx above the right tonsil, which was eventually successfully arrested by the ligature of the common, external, and internal carotid arteries. A victualler, aged 28, was admitted into St. Thomas's Hospital, under Dr. Sharkey, on June 20th, 1896. The day after admission he bled rather profusely from an abscess in the pharynx above the right tonsil. On June 24th the soft palate was divided for the purpose of a complete examination of the abscess. A hole was then found passing through the wall of the pharynx into the tissues of the neck. This opening was enlarged and the cavity plugged with cyanide gauze, as it was thought from the character of the hæmorrhage that the bleeding might be from the internal jugular vein. During the night following this operation he bled so furiously that no doubt could be entertained as to the hæmorrhage being from a large artery, probably the internal carotid. The next day, June 25th, the bifurcation of the common carotid on the right side was exposed, and an animal ligature applied by means of a "stay knot" to the common carotid and its two branches. A saline infusion of two pints was given whilst the wound was being closed with sutures. The wound in the neck healed by first intention, and the abscess cavity in the pharynx was found by digital examination to have closed on July 16th. He had no further hæmorrhage after the ligature of the carotid arteries, and left hospital for a convalescent home on July 25th. Considering the difficulties in determining the exact source of hæmorrhage when it occurred from a pharyngeal abscess, it seemed to the author to be the safest practice to tie both the external and internal carotid arteries as well as the common carotid, since all three arteries could be reached through the same incision at the bifurcation. The necessity for tying two of them had been well shown by Mr. Pitt's paper in *St. Thomas's Hospital Reports*, vol. xii., and the addition of the third scarcely increased the length of the operation.

Mr. B. Pitts has seen a similar case 15 years ago in a man with tonsillitis, and discharge first of pus, then of a small and eventually of a larger quantity of blood. The common carotid on the affected side, which was only indicated by slight brawny swelling, was tied, but two days later the man had another hæmorrhage to two pints, and died. At the necropsy the internal carotid artery had been opened by an abscess. The occurrence of hæmorrhage so often after showed that ligature of the common carotid alone was ineffectual. He had performed experiments in

the dead-house with glass tubes inserted into the carotids, and water injections, which showed that the hæmorrhage which followed after ligature of the common carotid in the cases under discussion was the result of anastomosis between the branches of the external carotid arteries on the two sides. He therefore advocated ligature of the external carotid as well as of the common carotid. Mr. Clutton's plan of ligaturing the internal in addition to the other two was even better.

Mr. Harrison Cripps had read a paper before the Society nineteen years ago, discussing which vessel should be ligatured in perforating wounds about the face and throat. Generally speaking the common carotid was the one selected. He had performed experiments on the same lines as Mr. Pitts. His method was as follows: The right common carotid was ligatured and the facial artery on that side was cut across; water was then driven into the left common carotid artery, and issued from the proximal end of the cut right facial artery, showing that the anastomosis was between the internal carotids, and not between the external carotids. He advocated ligature of the external carotid low down. Analysis of 68 cases showed that ligature of the common carotid was followed by a high mortality, which was not due to sepsis, but to two causes: (1) Brain symptoms either coming on directly after ligature, or supervening some three or four weeks later; the brains of patients already anæmic from hæmorrhage being very intolerant of further privation of blood. (2) From recurrent hæmorrhage. It was very rarely that hæmorrhage came directly from the internal carotid; in only one case out of 68 cases did it occur. He insisted it was better to do the safe operation of ligature of the external carotid with every probability of success, and, if need be, ligature the common carotid later, rather than adopt the dangerous operation of ligature of the common carotid in the first instance.

OTOLOGY.

BY CHARLES STEADMAN BULL, M. D.

ANTISEPTIC TREATMENT OF SIMPLE CHRONIC SUPPURATION OF THE TYMPANIC CAVITY; SYSTEMATIC TAMPONING OF THE EXTERNAL AUDITORY CANAL WITH IODOFORM GAUZE.—Fongeray (*Ann. des mal. de l'oreille et du larynx*, June, 1895) draws the following conclusions from his observations:

1. The external auditory canal is a channel by which the middle ear often becomes infected by penetration of staphylococci into the tympanic cavity.

2. The use of the non-sterilized cotton tampons has been known to cause secondary infection. The method of exposure to the flame of alcohol saturated with boric acid is very simple and should always be employed.

3. To avoid the spread of secondary infection from non-sterilized cotton or dirty cotton, the external auditory canal should always be tamponed by iodoform gauze. The method is very simple, antiseptic, easy of application, arrests all germs contained in the air, and is well borne by the patients.

PAEDIATRICS.

IN CHARGE OF
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WILLIAMS, DAWSON: THE GLANDULAR FEVER OF CHILDHOOD.

Under the name "Glandular Fever (Drusenfieber)," E. Pfeiffer, in 1889, described a condition observed in childhood which he contended was an acute specific fever hitherto unrecognized. The symptoms of the disorder as noted by him and elucidated by subsequent writers are briefly as follows:

The patient, a child under fourteen years of age, becomes suddenly ill, the temperature is found to be raised—101° to 103° F.—there is anorexia, nausea, sometimes vomiting, coated tongue, constipation, and, perhaps, some ill-defined abdominal pain. The most prominent and characteristic symptoms, however, are stiffness of the neck, tenderness in the anterior triangle, and some pain on movement of the head and on deglutition. There may be some undue redness of the pharyngeal mucous membrane, but throughout the whole course of the illness nothing like definite pharyngitis or tonsilitis. On the second or third day a swelling is noticed in the neck, which is found to be due to three or four enlarged lymphatic glands, which can be felt beneath the sterno-mastoid muscle and along its anterior border. The temperature becomes higher and usually touches 104° F., and the ordinary symptoms of pyrexia are present. The glands, which are tender, remain swollen for from two to five days and then begin to diminish. The glands first affected are, as a rule, those of the left side, and the pain on movement may lead to the head being flexed toward that side. Before the glands on the left side have begun to subside, those on the right begin to enlarge, and in a day or two attain a size corresponding to that reached by those on the left side when at the maximum. Tenderness of the abdomen may be a very marked symptom, and in a large proportion of cases the mesenteric glands can be felt to be enlarged. The liver is enlarged almost invariably, and the spleen in more than half the cases. The other cervical glands may also become enlarged, the axillary and inguinal glands less often. The disease is mild, and is seldom or never the direct cause of death, but it leaves the child in an anæmic and depressed state, which may last long after all trace of enlargement of the lymphatic glands—which has usually ceased in ten days or a fortnight—has disappeared.

It is obvious that the specific characters of the disorder are not well marked. Enlargement of the cervical glands secondary to various local lesions is of so common occurrence in childhood that the specificity of Pfeiffer's "Drusenfieber" has not met with general acceptance. It can hardly be asserted that his arguments have been refuted; it would be more correct to say that they have for the most part been ignored. The author has for some years strongly suspected that this attitude was mistaken. He has seen in the out-patient department of the Shadwell Children's Hospital during the last few years a considerable number of cases answering to the description of glandular fever, but it is difficult in London to trace a history of infection in connection with any of the diseases of childhood, owing to the immense number of possible opportunities of infection. Occasionally, however, was observed several children of the same family to be affected in succession.

The most distinctive point is that the swelling and tenderness of the glands occur without obvious lesion of the pharynx and tonsils, and are altogether disproportionate to any slight pharyngitis which may be present. The several glands can be distinguished on palpation; the skin moves freely over them, and is little, if at all, reddened. The spontaneous subsidence of the adenitis is also noteworthy. The author has not met with a case in which suppuration occurred, and, according to all writers on the subject, this is an accident which does not occur, or occurs very rarely. The glands affected are, no doubt, those which are liable to become enlarged in affections of the pharynx; but tonsillitis causes at first enlargement only of the highest of the deep cervical glands—that which lies on a level with the angle of the jaw. If the lower glands become enlarged it is at a later date and to a less degree. The glands which first become enlarged in association with dental disorders are those which lie transversely along the inner aspect of the lower border of the body of the inferior maxilla. Even in acute pharyngitis it is, according to his observation, very unusual to observe an enlargement, sudden and almost or quite uniform, of all the deep cervical glands. Moussous lays stress on the severity of the general symptoms, which in one of the cases, he records, raised a suspicion of typhoid fever. In both the cases, which he gives at length, the child, on the third or fourth day of its illness, suffered from a paroxysmal cough ending in vomiting, but without the characteristic whoop or glairy expectoration of whooping cough. This appears to indicate that the tracheo-bronchial glands may be enlarged during the course of the illness.

Pfeiffer observed that the disease occurred in very limited epidemics, generally affecting a single family, but attacking most of the members who had not passed childhood. Those writers who, after Pfeiffer, have described cases, have laid stress upon the absence of any discoverable local lesion capable of accounting for the adenitis. The pain on swallowing is attributed to the enlargement of the glands, for pharyngitis, even when present, is only in very rare cases severe. Hesse, one of the most recent writers on the subject, reports three cases in the same family, all of whom suffered from severe nephritis. Heubner, Starck, and others, have recorded cases in which the same complication occurred. Hesse argues

that the existence of this complication is strong evidence in favor of the specific theory, and argues that the lymph-adenitis is either a manifestation of an acute specific disease *sui generis*, or of an abortive form of one of the exanthemata. He dismisses the second alternative rather lightly, but it may be observed that rubella is believed by some to occur occasionally without rash, but with marked swelling of the glands along the sterno mastoid muscle. Further, some evidence exists to show that mumps may occasionally affect the lymphatic glands of the neck without any discoverable inflammation of the parotid or other salivary glands. It is, the author believes, unnecessary to argue this point, because a recent communication made by Dr. Park West, to the New York Academy of Medicine, seems to refute all objections of this order. An extended abstract of Dr. West's paper is then given, the full text of which will be found in the issue of the *Archives* for December, 1896.

The incubation period cannot be stated positively. Hoerschelmann thought it was usually from eight to ten days in his cases, with extremes of five and fifteen days. Park West states that "many more children came down on the seventh day after exposure than upon any other day."

As to the pathology of the condition, there is, in the absence of any bacteriological investigations, much room for difference of opinion. Comby suggests that it is due to "an attenuated streptococcic infection, of which the point of entry is probably the surface of the tonsils." He would, therefore, appear to be opposed to the view that the condition should be considered an acute specific infection, and this seems to be the view also of Ashby and Wright. Comby, however, relies largely upon the observations of Neumann, who found staphlococci in certain glands which suppurated, and Comby also speaks of cases in which suppuration occurred. All other writers, however, comment on the absence of suppuration as a characteristic of the disease. The constant presence of obstinate constipation led v. Starck to advance the theory that the general symptoms and the adenitis might be due to infection derived from the intestines, or to the absorption of a toxin from the retained fæces. Dr. Henry Koplik, in the discussion at the New York Academy of Medicine, suggested that the earlier affection of the glands of the left side of the neck, which has struck most of those who have published notes on the disease, might be due to passage of the infective agent from the thoracic duct to the glands on the same side. On the whole, however, it seems probable that the infective agent, whatever it may be, obtains entrance by the pharynx or tonsils without producing a local lesion there, as is sometimes the case with the bacillus tuberculosis.

The condition presents certain analogies to the "non-venereal bubo," which has recently attracted a good deal of attention in the Far East, and has been the source of not a little perplexity to the medical officers of the army and navy. In connection with the theory that the glandular fever of childhood is due to intestinal infection and toxæmia, it is interesting to note that Surgeon-Major Skinner has suggested that as the "non-venereal buboes" in the cases he observed invariably occurred in the inguinal glands, and as the patients always had irregular action of the bowels, and sometimes dysentery, and in others apparently constipation, the enlarge-

ment of the inguinal glands may be due to secondary infection from the mesenteric lymph glands.

Though the pathology of glandular fever is unknown, it is of practical consequence to recognize that children are liable to an affection such as is described; that it is communicable, and that, though acute and accompanied often, if not usually, by high temperature, it is almost invariably benign, and does not lead to suppuration of the affected glands; but that it leaves behind a marked anæmia and general deterioration of health from which the child does not completely recover for a month or two.

There is one other point in which the affection resembles a specific fever. Treatment does not apparently exercise any influence over the course or duration of the malady. A cold compress to the neck, or, in the more severe cases, belladonna fomentations, relieve the local symptoms, but do not prevent the onset of adenitis on the opposite side. The bowels respond readily to laxatives, but the constipation soon returns. Purgatives, such as calomel, do not produce any more permanent effect, and Dr. Park West states that in some of the cases in which resort was had to this practice it seemed to be responsible for greater depression and a more prolonged convalescence.—*The Lancet*, 1897. Vol. L., No. 3.

The Canada Lancet

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The Largest Circulation of any Medical Journal in the Dominion.

Editorial.

BRITISH MEDICAL ASSOCIATION.

MONTREAL MEETING.

The time of the great medical event of the year at Montreal is not very far distant, and it behooves all who may not have decided to be present at the meeting to speedily make up their minds, and if the visit is contemplated, to at once inform the committee at Montreal of the fact. We learn that they are very anxious to know approximately how many they will have to entertain, and urgently request all who intend going to at once inform the local secretary, Dr. J. A. Springle, 2204 St. Catherine St., of the fact. The probable attendance of medical men is estimated at the present time to be about 1,000, two hundred and fifty from England, fifty from other colonies, three hundred from the United States, and four hundred Canadians. Three or four lady members have signified their intention of coming across the Atlantic, among them Mrs. Garrett Anderson. Dr. Saundby, Dr. Barnes and Mr. Fowke will arrive in Montreal on the 14th of August, by the *Parisian.*

Dr. Adami writes that the names of members who intend coming across are coming in daily, but when he wrote he was not certain that a special steamer would be required; but he is prepared at any moment to charter a vessel in the event of a sufficient number of late applicants appearing.

Seven eminent men who cannot be present at the meeting have promised to send demonstration specimens. The English secretaries are generally working in that direction.

Among the interesting discussions which are likely to be arranged for, is one on syphilis, between the dermatological and pharmacological sections, introduced by Dr. Whitla, of Belfast, Ireland, members of other sections, of course, being invited to attend.

Full arrangements will be made in advance whereby members intend-

ing to land at Quebec may obtain cards of membership entitling them to half fare and the privileges granted by the Customs Department. Vessels conveying members will be met at Rimouski, probably by Canadian representatives.

One of the most interesting and pleasant excursions will be the one arranged for to Ottawa, probably on Saturday. Dr. Roddick met the profession in Ottawa some days ago, and consequently the Finance Committee of the City Council promised to undertake all the expenses connected with the giving of a luncheon to the visiting members of the Association.

During Dr. Roddick's recent visit to Toronto, he spent some time with Professor Macallum, secretary of the B.A.A.S., from whom much information was obtained regarding the arrangements for that meeting. He found that a great many purposed attending both meetings, more especially those belonging to the physiological section. Dr. Roddick arranged with the President of the Branch, Dr. I. H. Cameron, to have any members of the B.M.A. entertained during their stay in Toronto. He found the profession as a whole very enthusiastic regarding the meeting, and very anxious to assist their Montreal brethren in every way.

It was Dr. Roddick's intention to have formed other branches in Western Ontario, in such places as London and Hamilton; but there was a feeling on the part of these places that there was not room for branches which might interfere with the existing local medical societies.

The Rev. Dr. Norton has kindly offered the Association the English Cathedral for a special service, and Dr. Adami will arrange with either Bishop Courtney, Bishop DuMoulin or Bishop Sutherland, who are now attending the Lambeth Conference, to officiate.

Some six hundred invitations have already been sent out, and replies have been received from 221. Among those who have intimated their intention of attending the meeting are: A. C. Abbott, Dept. of Hygiene, Univ. of Pennsylvania; John Ashurst, jr., L. D. Bulkley, W. T. Bull, H. T. Byford, H. P. Bowditch, J. Solis-Cohen, T. M. Cheeseman, D. W. Cheever, W. B. Coley, J. McKeen Cattell, Fred S. Dennis, D. B. Delavan, Reginald Fitz, Geo. H. Fox, Frank P. Foster, Christian Fenger, Virgil Gibney, H. G. Gerrigues, E. H. Grandin, Langdon Carter Gray, Geo. M. Gould, Hobart A. Hare, C. A. Herter, James Nevin Hyde, E. Hodenpyl, B. C. Hurst, A. Jacobi, Chas. Jewett, M. McKeen, Howard A. Kelly, C. A. Lindsley, John H. Musser, W. F. Mittendorf, Hunter McGuire, Thos. G. Morton, H. H. Mudd, J. B. Murphy, Paul F. Munde, W. P. Northrup, Wm. Pepper, Roswell Park, Fred. C. Shattuck, Louis Starr, W. Allan Starr, J. V. Shoemaker, E. C. Spitzka, Geo. F. Shrady, E. L. Trudeau, James Tyson, Hiram N. Vineberg, Wm. H. Welch and Casey A. Wood.

The English list of members coming has already appeared in the *British Medical Journal* and in the daily papers, but it will be of interest to be reminded that those coming will have the privileges of listening to such men as Professor Chas. B. Ball, William Mitchell Banks, Henry Barnes, Prof. R. Boyce, Watson Cheyne, Sidney Coupland, I. Ward Cousin, J. H. Crocker, Prof. E. M. Crookshank, C. Heath, Arthur Kelsey, D. J. Leech, Right Hon. Lord Lister, Harvey Littlejohn, Donald Mac-

Alister, Stephen Mackenzie, Thos. M. Madden, Malcolm Morris, E. Nettleship, Robt. Saundby, W. J. Sinclair, Prof. W. Whitla, Dawson Williams, and Professor Richet, of Paris. Replies have been received from 12 of the branches of the Association accepting the invitations tendered requesting them to send delegates.

The Museum Committee report that all their space has been taken up, and they probably will have to secure another building besides the large Victoria Skating Rink. This department will prove one of the most interesting features of the meeting. A rare opportunity will be forwarded to see pharmaceutical preparations, surgical and medical appliances, and everything that interests the physician, from the leading firms of the United States and Canada, as well as from across the Atlantic. Among the leading surgical instrument manufacturers will be Collin, of Paris, and Down Bros., of London, the latter making a special exhibition of antiseptic furniture which will be worthy of inspection. Among the leading pharmaceutical houses who are making elaborate displays will be R. K. Mulford & Co., of St. Louis; Parke Davis & Co., Detroit; Wyeth, of Philadelphia; Sharpe and Dohme, of Baltimore, and others. Zeiss is making a special display of microscopical apparatus. There will also be a great variety of exhibits from leading firms in Vienna, Berlin, Edinburgh, London, Paris and New York.

The local Entertainment Committee are being assisted by a committee of ladies consisting of the wives of the profession in Montreal and others. Among the entertainments provided for, in addition to those mentioned before, are a number of afternoon tea and garden parties. The ladies' committee will specially interest themselves in looking after lady visitors, and will make ample provision for continuously entertaining them during the progress of the meeting, so that members may without hesitation bring their ladies with them and be assured while they themselves are fully occupied with the essential features of the meeting, the former will be so well looked after that the time will not hang heavily. The annual dinner will be held at the Windsor Hotel. The large dining-room will accommodate six hundred. The dinner will cost five dollars, including wines.

The Excursions Committee have arranged an attractive and varied programme which cannot fail to meet the desires of all. We append the printed outline of some of the excursions which was issued recently.

Among other excursions not noted on the printed list, is the one on Lake Memphremagog to Newport and Magog. This is one of the most picturesque spots in the Province of Quebec, and the trip will carry the tourist through one of the most fertile portions of Canada, with scenery of mountain, lake and river, fairly typical of what is characteristic of the Province, and to be seen more especially in almost endless variety in the Laurentian district, which, for want of time, cannot be visited. A special train will be provided which will enable the party to return in the evening. The steamer will accommodate about 800. Lunch will be taken at Newport, or probably at the foot of Owl's Head, if it is found that the hotel there can supply refreshments for the number expected to go. The excursion will be arranged for Saturday, and it is thought probable that for those desiring it, the privilege of remaining over Sunday and return-

ing on Monday will be obtained. A trip is proposed to Shawenagan Falls, on the St. Maurice River, which are said to almost rival Niagara.

Among other local trips on different afternoons are a ride round the mountain on the electric cars and through some of the more interesting parts of the city; a trip to the top of Mount Royal, where a luncheon will be served by the Mayor and Corporation of Montreal. The incline railway, carriages or bicycles may be the means of arriving there; a steamboat trip down the St. Lawrence; another to Ste. Anne and down the Lachine Rapids. It can be gained from what we have indicated that those going to the Montreal meeting will not only be benefited from a medical point of view by coming in contact with the leading members of the profession from Britain, the United States and Canada, and taking in the various discussions and papers which may be expected to represent the most recent advances, but that they will also be fully regaled by a varied and full round of social entertainments and pleasure trips such as has not been privileged to the members of any previous meeting.

SOME MEDICAL ASPECTS OF THE DIAMOND JUBILEE.

The Diamond Jubilee of Her Majesty, which has been celebrated with so much enthusiasm and success all over the Empire, has its medical side, a fact which seems to have been overlooked. We do not refer to the history of medicine during the Victorian era, but to the personal relation of the sovereign to our various medical attendants during the reign. These relations, there is reason to believe, have been always of the most friendly and appreciative character. On the Queen's accession she appointed Sir James Clark physician-in-ordinary (he was not related to Sir Andrew Clark). He continued in close attendance on Her Majesty until his resignation in 1861, when he was succeeded by Sir William Jenner, who continued to hold his office until the 23rd of June last, when he retired into private life. Sir William Jenner began life in the humblest way as a licentiate of the Society of Apothecaries, residing in an obscure street in London. He retires a baronet, a Knight Grand Cross of the Bath and a rich man. Who will say that a poor man has no chance in England? Jenner's professional work has been important; to him, among other things, we owe the diagnosis of typhoid fever. He has been succeeded by Sir James Reid, who has been since 1889 physician-in-ordinary and resident physician. He graduated at Aberdeen in 1875. He is responsible for the Queen's health in a more particular manner than his predecessors, as he is constantly with the Court. Sir Charles Locock was physician accoucheur to the Queen and attended her in all her confinements. Upon two occasions, the births of the Duke of Albany and Princess Beatrice, Dr. John Snow administered chloroform.

The following is the list of the Queen's physicians and surgeons: Physicians in ordinary, Sir James Reid and Sir Ed. Sieveking; physicians extraordinary, Sir Richard Douglas Powell, Sir Richard Quain, Sir Alfred Garrod and Dr. Samuel Wilks; physician to the household, Dr. Thomas Barlow; sergeant surgeon, Sir James Paget; surgeons extra-

ordinary, Lord Lister, Sir Thomas Bryant, Sir Thomas Smith; surgeon to the household, Rickman J. Godlee; surgeon oculist, George Lawson; apothecary, Sir Francis Laking; surgeon dentist, Sir Edwin Saunders; physicians in ordinary in Scotland, Dr. W. T. Gairdner and Grainger Stewart; surgeons, Patrick H. Watson and Alexander Ogston; surgeon oculist, D. Argyle Robertson; physician in ordinary in Ireland, Dr. Wm. Moore; surgeons in ordinary, Sir William Stokes and Sir Philip Smyly; surgeon oculist, G. E. FitzGerald.

Why should there not be a physician and a surgeon extraordinary appointed from Canada?

BRITISH MEDICAL ASSOCIATION.

Montreal Meeting, Augsut 31st.

How members may reach Montreal or take advantage of trips to any part of Canada before or after the meeting, rates, etc. The names of all members of Toronto branch have been forwarded to Dr. G. E. Armstrong, 320 Mountain St., Montreal, who will send certificate to any member writing for it, entitling him and any of his family to buy a ticket at any ticket office (railway or steamboat), in Canada, to any part of Canada, for half of one single fare, or return for one single fare. He can purchase them at any time, to any point, and as often as he likes. These rates are good from now until 30th Sept.

If anyone wishes to go to the Northwest before the meeting, he can purchase a ticket from point of departure, at same time asking the local ticket agent to give a certificate saying he had purchased a ticket; if this certificate and the number of the certificate given by Dr. Armstrong is sent to Mr. N. F. Egg, 129 St. James St., Montreal, he will quote a price and also send free passes over branch lines in Manitoba, Northwest Territories, and British Columbia, and over the C.P.R. steamboats. The price of such ticket to Vancouver is about $70.45, or on receipt of number of certificate given by Dr. Armstrong Mr. Egg will quote price, send tickets and free passes altogether, on receipt of money order for the amount. It would be well for any of the profession, throughout the western part of the province especially, who are not already members, but who wish to take advantage of all that the meeting affords, to make application for membership at their earliest convenience. It ought to be understood that only invited guests and members are admitted to the discussions and privileges.

Other information may be obtained by writing Dr. H. T. Mitchell, 95 Bellevue Ave., the Acting Secretary of the Toronto branch.

THE MEDICAL COUNCIL.

The Medical Council has once more met and concluded its labors. We do not look for complete unanimity in legislative bodies. Were its existence possible, usefulness would be curtailed, for from manly controversy comes forth that which most nearly approaches perfection in enactment.

The diversity of thought which pre-eminently characterized the recent session was no innovation, inasmuch as debate has waxed fast and, once in a while, somewhat furious, ever since the last election, on which occasion the personnel of the Council was in a measure changed by the appearance in its midst of a small minority pledged on a radical platform to stand together against the existing order of medical polity.

Theirs has been a policy of vigorous attack; but while one cannot help admiring continuity of purpose in any attempted revolution, the degree of admiration must be determined by the nature of the *casus belli* and the motives that impel the insurgents.

Fair investigation of the historical facts will show that the beginning of strife originated in the refusal of a certain few to contribute the small sum of two dollars per annum toward the revenue of the College, which the records prove to have been a necessity; and although we have not been always in accord with the judgment of the Council, we think it self-evident that every member of the College has received full value for his annual fee. The original legislation for the incorporation of the profession had in view two main objects—the one a guarantee to the community of satisfactory attainments on the part of those who have the public health committed to their care, and the other a bond of professional union and brotherhood to secure ample protection against quackery from without and from degradation of a lofty calling by ignoble deeds within the ranks.

We fear that the profession of medicine in Ontario has not been exalted to any great extent in the estimation of the people by this interminable quarrel over so trifling a matter as the yearly assessment. The opinion has again and again been expressed by eminent men from abroad that nowhere else are the interests of the profession so sacredly guarded by law as we find in this Province. In any other corporation under the sun a *rara avis* would he be who, while sharing in the benefits of the body corporate, would obstinately persist in withholding his mite. It is a great pity that we have become a spectacle for the ridicule of others who can scarcely credit the reliability of their eyesight; and it does seem about time that this line of warfare should come to an end. We have closely watched the proceedings of the past few years and are firmly persuaded that the policy of the few who always oppose, if stripped of its enwrapping husks and well-nigh empty shell, would turn out to be a shrivelled little kernel—a willingness to accept what others pay for, coupled with the self-satisfying opportunity for carping at the legislative measures which had to be invoked in order to compel them to accept the option of doing their part like men or getting out.

The recent session was pregnant with discussion full and free; we fancy it was a trifle less acrimonious in character than its predecessors, but still there is room for improvement. Factious opposition should have been eliminated, and attention given exclusively to straight business. We heartily commend the holding of night meetings which prevailed; for a short session with its lessened expense is a desideratum.

The President, Dr. Thorburn, discharged the duties pertaining to his office in such a manner as to richly earn the hearty vote of thanks accorded.

Certain changes in the curriculum of an important character were advised by the Education Committee, and adopted; the most pressing being the compulsory lengthening of the school session from six to eight months, not a whit too long for such scientific training as the people of Ontario have a right to expect. In order to give opportunity for certain schools to make the preparations necessary for so important a departure, this is not to come into effect until October, 1899—the resolution having been adopted by a very large majority.

The highest standard compatible with the resources of the country is to be desired, but when it resolves itself into a financial barrier in the way of ambitious, brainy young men, it then becomes an evil; for this reason we deprecate the continuation of the fifth year.

Lack of space precludes further reference to the alterations in the professional course, but we purpose resuming the matter in our next issue.

THE BALL NOZZLE SYRINGE.

That this is *the* age of inventions is once more emphasized by the appearance of the Ball Nozzle Syringe, which has just been placed upon the Canadian market by the Ball Nozzle Company of Toronto, Limited, Confederation Life Building, Toronto. It is different in construction from all ordinary syringes; instead of being pierced by small holes, as in these, the outlet is controlled by a ball, which causes the water to issue in a hollow stream and thoroughly cleanses the *cul de sac*. This will be an inestimable boon to women, as any woman may now use a syringe without the slightest fear of injuring the delicate sensitive organs, and we confidently recommend this syringe to the medical profession as being an exceptionally meritorious article.

PERSONAL.—We are glad to see our collaborateurs, Drs. G. Sterling Ryerson and G. A. Bingham, have returned from England, where, we understand, they made a considerable impression upon Her Majesty and the nobility in general.

ACNE.—Spray with a one-half to one-fifth per cent. solution of resorcin, and follow by the application of an ichtyol plaster; after the disappearance of the acne an ointment of chrysarobin, at first 20 per cent., then 10 per cent., should be applied.—*Brocq.* (*Pediatrics.*)

BRITISH MEDICAL ASSOCIATION.

MONTREAL MEETING.

To the Editor CANADA LANCET. July 16th, 1897.

DEAR SIR,—May I ask you through the columns of your journal to draw the attention of the profession in Canada to the fact, that all those who intend attending the meeting of the British Medical Association here on the 31st of August next must be members of the Association. And, moreover, it is compulsory in all meetings, excursions, or entertainments of any kind, that members must show their ticket of membership to entitle them to any of the foregoing privileges.

The half year of subscription to membership began on July 1st, from which date also the second volume of the Journal for the current year is issued.

It is particularly advisable that all those who intend to join should do so now, and not wait until the time of the meeting, when in all probability their election to membership would be delayed, and place an extra amount of work upon the officials, who at that time will probably have more than they can comfortably accomplish.

Yours faithfully,

J. ANDERSON SPRINGLE,
Hon. Secretary Montreal Branch.

SANMETTO IN GONORRHŒA.

A bottle of Sanmetto enabled me to discharge the patient I was treating entirely cured. Since then I have had a crop of cases of gonorrhœa, such as often explodes in our midst in the form of an epidemic. In the chronic form of gonorrhœa, ending in chronic cystitis and urethritis, involving the prostrate gland and lymphatics, with backache, malaise and painful micturition, I think I can say with impartiality that I know of no medicine conserving the purpose of bridging over these troubles like Sanmetto; and I know of no class of troubles which annoy physicians more. In all such cases I would say, put the patients on Sanmetto, and if they do not improve, I will give it up. Sanmetto is invaluable in such cases.

PULASKI, TENN.

J. C. ROBERTS, M.D.

Prof. E. H. Pratt will hold his eleventh annual class for didactic and clinical instruction in orificial surgery during the week beginning September 6th, 1897. The class will assemble in the amphitheatre of the Chicago Homœopathic Medical College, at the corner of Wood and York Streets, at 9 a.m.

The course of instruction will last during the week, occupying a four hours' daily session.

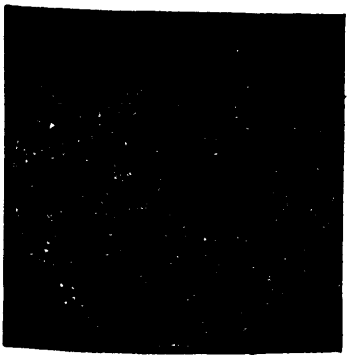
THE CROWNING DEVELOPMENT OF PRACTICAL MEDICINE

IN HÆMATHERAPY, OR BLOOD TREATMENT.

BLOOD, AND BLOOD ALONE, is physiologically ascertained to be the essential and fundamental Principle of Healing, of Defense, and of Repair, in the human system; and this Principle is now proved, by constant clinical experience, to be practically available to the system in all cases, to any extent, and wherever needed, internally or externally.

And the same overwhelming clinical demonstrations have also proved that the Vitality and Power of Bovine Blood can be and are *PRESERVED*, unimpaired, in a portable and durable preparation, sold by all druggists, and known as Bovinine. Microscopic examination of a film of Bovinine will show the LIVING BLOOD CORPUSCLES filling the field, in all their integrity, fullness, and energy; ready for direct transfusion into the system by any and every mode of access known to medical and surgical practice; alimentary, rectal, hypodermical, or topical.

A FILM OF BOVININE:
Showing the Blood-corpuscles Intact.



Micro-photographed
by Prof. R. R. Andrews, M.D.

In short, it is now an established fact, that if Nature fails to *make* good blood, *we can introduce it.* Nothing of disease, so far, has seemed to stand before it.

Apart from private considerations, these facts are too momentous to mankind, and now too well established, to allow any further reserve or hesitation in asserting them to the fullest extent.

We have already duly waited, for three years; allowing professional experimentation to go on, far and near, through the disinterested enthusiasm which the subject had awakened in a number of able physicians and surgeons, and these daily reinforced by others, through correspondence, and by comparison and accumulation of their experiences in a single medical medium adopted for that provisional purpose.

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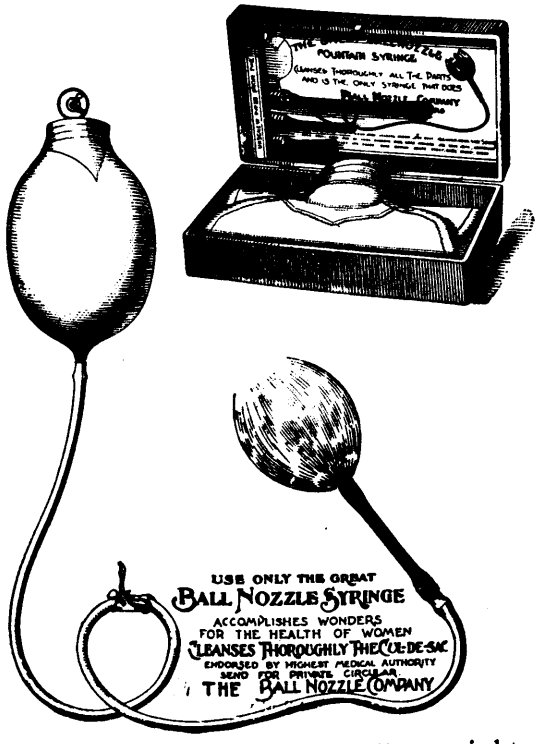
SCHAFER'S COURSE OF PRACTICAL HISTOLOGY. By Edward Albert Schafer, LL.D., F.R.S., Jodrell Professor of Physiology in University College, London. Second edition, 12mo., 307 pages, 59 engravings. Cloth, $2.25. Philadelphia and New York: Lea Brothers & Co., 1897.

The same author's "Essentials of Histology," now in its fourth edition, is one of the most largely-used text books in this country. The purpose of the present volume is to afford students of Practical Histology a manual containing plain and intelligible directions for the suitable preparation of the animal tissues The union of hand and brain is the key to successful education in any subject where objective methods can be applied. Knowledge obtained in this manner has the advantage of clearness and permanence, and Professor Schafer has in this volume furnished just such a guide to imparting a command of a very important foundation of medicine.



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