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## ON ABDOMINAL EXAMINATION.\*

By KENNEDY C. McILWRAITH, M.B.,  
Associate in Obstetrics, University of Toronto.

**M**R. *President and Gentlemen.*—I wish to call your attention this evening to the development of the abdominal method of examination, and the causes which have led to it. Something of what I have to say is known to all of you, all of it to some of you. My object is to lay a systematic method before you and to emphasize the importance of it.

The more or less efficient methods of hand sterilization, and the use of rubber gloves, have reduced to a minimum the danger of contagion from the attendant's hand *per se*, but no equally efficient means has, as yet, been devised for sterilizing the vulva. There remains, therefore, the danger of carrying germs from this site into the vagina and uterus. Until this danger has been eliminated vaginal examination can never be quite safe.

By the systematic abdominal we, to a very large extent, obviate the necessity for the vaginal examination. That is the first strong reason for its adoption. The second is that we can make our diagnosis by abdominal examination long before the cervix is open. Systematic abdominal examination may be carried out as follows:—

1. First warm the hands. Then, standing by the patient's right side feel with the left hand for the foetus. This will not always coincide with the top of the uterus, so be sure to find the foetus. Having found this fix the body by pressing firmly in a direction parallel with the long axis of the mother's body, so as to press the lower end against the pubic bones. This makes the back of the foetus arch out against the wall of the abdomen. Keeping the body fixed in this way press now, firmly, in turn on the lower left and right quadrants of the abdomen with the right hand. Over the back of the child a greater resistance is felt than over its abdomen; also pressure on the back causes the upper pole of the foetus to slide under the fixing hand at the fundus, while pressure over its abdomen does not do so. The explanation of these two signs is the same, namely, that when you press over the back you are pressing directly on the foetus, for its back is arched out against the abdominal wall, whereas on the other side you scarcely touch the foetus

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\* Read before the Toronto Medical Society, March 8th, 1906.

at all for its outline is concave towards that side, and you are pressing into the concavity. These two signs, then, will generally enable you to determine the position of the back of the fœtus.

2. The fingers of the examining hand now practice a sliding palpation upwards along the curve of the back. If the curve be uninterrupted to the fixing hand, the position is breech to fundus, or head presentation. Following now the curve of the back downwards in a similar manner you will often detect an area of diminished resistance which corresponds to the interval between the back and the head, the head being generally felt as a rounded hard mass lower down. If, on the other hand, the curve be uninterrupted in the downward direction and the sulcus near the upper end you have a breech presentation.

3. You may confirm this finding of the head at fundus by the process of ballotement. Place the palms of the hands firmly on either side of the abdomen below the sulcus, so as to hold the child between them, and toss the part above the sulcus back and forth between the tips of the fingers. If it can be made to move thus independently of the part fixed between the palms it is the head. When the child is large and tightly packed in the uterus the head cannot be ballotted in this way. When the head is low down in the pelvis the shoulders rest on the brim, and you may not find the sulcus because of not feeling the head below. Where the head is fixed in the brim it cannot, of course, be ballotted. Yet the body may be made to move independently of it.

4. Turn now so as to bring your left side to the bedstead, and face towards the patient's feet; place your hands on either side of the abdomen so as to hold the lower pole of the fœtus between their palmar surfaces, and press the finger tips downwards into the true pelvis. If the hands be kept close to the body of the fœtus, the hand which lies on the back of the child will slip readily downwards past the occiput, but the other will be stopped by the flexed face. This hand usually meets the chin, which feels somewhat like a small horse's hoof. This furnishes another indication of the direction of the back. By this grip one may determine the degree of fixity of the presenting part, and the downward progress of the head during labor.

5. Pawlic's grip for examination of the lower pole of the fœtus.

This is a single-handed grasp of the presenting part. The tips of the fingers on one side and the thumb on the other are dipped in just above Poupart's ligaments and the presenting part grasped. A good idea of its fixity and shape may thus be obtained. In very stout women the finger and thumb tips should be placed first on Poupart's ligaments and then pressed gently upwards under the pad of fat which covers the abdomen like a cushion.

6. When the uterus is lax and the child is floating about in the liquor amnii to an extent that makes it impossible to fix it in the manner described, its outlines may often be made out by pressing firmly in the centre of the abdomen, displacing the water to one side and the child to the other.

7. By abdominal examination also the full bladder is easily discovered both before and after labor.

#### AUSCULTATION.

The palpation findings should now be confirmed by auscultation. I find that the most satisfactory plan is to stretch a sheet smoothly over the abdomen and apply my ear. I have never had a patient raise any objection to this procedure. Many physicians prefer to use the stethoscope or phonendoscope. Instruments are better for determining the point of maximum intensity of the fetal heart sounds, the ear alone for discovering a heart that is hard to find. When the point of maximum intensity is in the lower left or right quadrant of the abdomen, the O.L.A. or O.R.A. positions respectively are indicated, when in the upper left or right quadrant the S.L.A. or S.R.A. positions respectively. Remember that when the head is downwards, but still freely moveable above the rim, the heart may be heard as high as the umbilicus..

When the diagnosis as made by palpation differs from that made by auscultation the former is generally the better guide. Only this morning I examined a woman in whom the position was evidently S.R.A., yet the heart was best heard below the umbilicus and out in the right flank—a point of maximum intensity which would indicate an O.D.P. The uterine may be distinguished from the funic souffle by the fact that the former is synchronous with the maternal pulse, the latter with the heart beat of the child. The beating of the abdominal aorta is often heard and felt. The funic souffle is said by some to be due to knots in or pressure on the cord, and therefore to be of pathological significance for the child. I have heard it many times but the child has always been all right.

Such then is the ordinary examination.

#### DIAGNOSIS OF SPECIAL CONDITIONS OR POSITIONS.

*Posterior positions of the occiput.*—If the back be to the right one suspects an O.D.P. position on account of the tendency of the head to engage in the right oblique diameter. The limbs are usually much more in evidence than when the back is anterior; where the back is usually felt you feel the curving outline of the side; and the back itself may often be felt far round in the maternal flank. On auscultation the fetal heart may not be heard at all; at other times it is heard far out

in the flank. *When the head is low down in the pelvis* the heart is best heard over the chest of the child instead of over its back as usual. Thus, in an O.D.P. position, when the head is low down, the heart is heard in the lower *left* quadrant in the position which usually indicates an O.L.A.

*Face Presentations.*—In these the heart is heard over the chest of the child and not over its back. This is expressed clinically by saying that one feels the limbs and hears the heart of the child on the same side of the abdomen. The prominence of the occiput above the brim is very marked.

*Signs of Threatening Rupture of the Uterus.*—There may be found, standing out from the sides of the lower part of the uterus, two rounded tense cords—the round ligaments. Owing to the dextro-rotation of the uterus the left ligament is to the front and is the more easily palpable of the two; indeed it is often the only one that can be felt. It must, however, be said that these round ligaments sometimes stand out quite markedly when the patient is not in labor at all.

*Multiple Pregnancy.*—More than one body may occasionally be made out, or two or more fetal hearts of different rates be heard. This condition escapes diagnosis much more frequently than one would suppose possible.

*Diagnosis of Fibroid Tumor with Pregnancy from Twins.*—The tumor is hard compared with the rest of the uterus. Intermittent contractions are felt in the uterus but not in the tumor. Heart sound heard over the uterus but not over the tumor.

*Diagnosis of Labour.*—By laying your hand on the uterus you may feel in it intermittent contractions. If these contractions are painful labour is present. If the patient complains of pain when the uterus is relaxed it is generally colic and not labour.

*Importance of Fixation of the Head.*—If the head be fixed low down in the pelvis it indicates the absence of contracted pelvis or placenta prævia. In a primipara the head generally fixes at least two weeks before labour. In a primipara, therefore, a head that is moveable above the brim at the onset of labour usually means contracted pelvis. In multiparæ, on the other hand, the head frequently does not fix until the beginning of the second stage.

Many more claims have been made for abdominal examination, the correctness of which time and further experience may or may not demonstrate. All those which I have referred to have become established in our hospital and private practice and their value amply proven. In conclusion I may point to two things which cannot be made out by abdominal examination, viz:—The state of the os and soft parts, and presentation or prolapse of the cord.

## EPIDEMIC CATARRHAL JAUNDICE.\*

By JAMES L. ADDISON, M.D., C.M., St. George, Ontario.

I N presenting this incomplete paper I may say that I have nothing new to offer. It is an old question that has been threshed out by better men, and for my shortcomings blame your president for bringing me here. This form of jaundice, by some said to be Weil's disease, can not be so very common, as this is the first epidemic I have witnessed in a practice of over 21 years.

*Etiology.*—It is most common in children, but may occur at any age, about 50 per cent. in the first decade. My youngest patient was 18 months, my oldest 81 years. It occurs in both sexes, more common in damp climate, is not spread by food or drinking water, though I think heavy feeders are more susceptible. Is it infectious? The majority think so, and a great many writers think it is a form of influenza. In our district it has been the exception to have more than one or two cases in a family. In some families I have had one case of jaundice while the other members of the family had influenza.

*Symptoms.*—The earliest symptoms I have noticed are a feeling of fullness, pain and tenderness in the gastric and hepatic regions. During the first two or three days there is generally slight fever, temperature 100 to 101, with the usual malaise, loss of appetite, headache, and drowsiness. Vomiting is common, the bowels are generally constipated. About the third or fourth day bile appears first in the urine, and next in the sclerotics and skin; the temperature then generally falls to normal, stools are clay-colored and generally remain so for ten or twelve days, sometimes much longer. The yellow color of the skin gradually fades and the patient looks pale, though I have been unable to find any marked leucocytosis.

*Complications.*—Perihepatitis, bronchitis, pneumonia and enteritis are the complications met with.

*Diagnosis.*—This is generally easy, the distensible pain in the gastric and hepatic regions with tenderness and slight rise of temperature, if seen early, is sufficient; later the pain, tenderness and jaundice. In only one case have I had any difficulty, and that was a case of primary nodular cancer of the liver, occurring in a woman, age 58, the diagnosis remaining in doubt till a late stage of the disease.

*Prognosis.*—This is good, as I have only been able to find one fatal case reported; that one occurred in Derbyshire, England, during the epidemic of 1901. Like other diseases occurring epidemically the severity of the disease varies in different epidemics, and also during the same epidemic under different circumstances. Two severe cases I have thought would be of sufficient interest to report.

\* Read at the Hamilton Medical Society, 7th February, 1906.

CASE 1.—Mrs. J. R., age 49, personal and family history good. After complaining of distress in the stomach for a few days, drove to market, a distance of ten miles, and returning home could hardly sit up in the buggy on account of the pain in the stomach and liver. Went to bed early but could not sleep much on account of pain. On my visit next day, Nov. 26th, the skin was tinted yellow, sclerotics yellow, tongue slightly furred, vomiting, bowels constipated, pulse 68, temperature normal, marked tenderness over the stomach and immediately below the liver.

Ordered calomel, 5 gr. soda bi-carb., 20 gr., to be followed in six hours by mag. sulph., 1 dram; later, soda phosph., a teaspoonful in hot water three times a day, rest in bed, milk diet, mustard plaster over the tender area.

Nov. 27th. Has had one stool, clay-colored, about the consistence of putty, urine brownish color; on tipping the chamber to one side, a thick yellow bile is seen adhering to the white chamber and gradually receding. On examination, abundance of bile pigment in the urine was found.

Nov. 29th. Gave calomel, 8 gr., soda bi-carb., 20 gr., followed by mag. sulph., 1 dram, result one semi-solid stool about ten hours after administration of the calomel.

Dec. 1st. Mag. sulph., 2 drams, substituted for the morning dose of soda phosph., bowels moved by enema in the evening. Dislikes the soda phosph. and was given bismuth sub-nitrate, 10 gr., and soda bi-carb., 10 gr., three times a day with mag. sulph., 1 dram at bed time. Bowels moved by enema every second day.

Dec. 6th. While at stool had a severe chill followed by a sweat. Temp., 104 2-5, pulse 120, tenderness, especially marked over the region of the gall bladder; was unable to locate it definitely on account of the tenderness, the whole area of the liver being tender on percussion, and the note not clearly resonant for about three fingers-breadth below the liver on the right side. No physical signs in the chest.

Dec. 7th. Rigor followed by sweat in the morning; temp., 104, pulse, 120.

Dec. 8th. Patient much the same; no change in temp. or pulse. Two rather fetid stools.

Dec. 9th. No change in pulse and temp. Four stools, quite offensive. Bismuth, soda and salts stopped, and gave zinc sulpho.-carb., 5 gr., every four hours.

Dec. 10th. Morning temp. 102, pulse, 96. Two stools, odor the same. 11 p.m., distinct rigor lasting half an hour; pulse, 140; patient

quite excited, delirious and headstrong, determined to get out of bed. After sweating for an hour, temp. dropped to 102, pulse, 96.

Dec. 11th. Fifteen days after my first visit morning temp. normal. One stool slightly tinted with bile, odor normal; evening temp., 102, pulse, 100, no dulness.

Dec. 13th. Bowels moved by enema. Three stools well stained with bile, temp. 102, pulse 100. Zinc sulpho-carb. stopped; ordered Watson's chlorine mixture, 2 drams, with 2 gr quinine every four hours; bowels to be moved by enema second day.

After this the temperature and pulse gradually fell, reaching normal on the 27th of Dec., 32 days after the onset. Patient objected to chlorine water and the following tablet was substituted: strychnine, 1-60 gr., ipecac, 1-10 gr., capsicum, 1-4 gr., ext. rhubarb, 1-4 gr., ext. gentian, 1-2 gr., soda 2 gr., three times a day before meals; light diet.

Patient got out of bed Jan. 1st, and gradually regained health and strength.

Jan. 24th, 1906. After driving over the rough roads a distance of about ten miles and eating a hearty dinner, she again complained of pain over the stomach and right side, with vomiting. When I visited her at 8 p.m., temperature 101, pulse 90, and bowels not moved for two days. I gave her a dose of calomel to be followed by mag. sulph. in the morning, and left salicylate of soda mixture to be taken four times a day after the bowels moved. Her temperature was normal the next day, and she has remained well ever since.

CASE 2.—July 27th, 1905, while passing was called to see J. R., age 8. His mother told me he had been drowsy and not feeling well for two or three days. During the previous 24 hours bowels had been moved three times, the last two passages being quite fetid; tongue covered with a whitish fur, not red on tips or edges; temp. 100, pulse 80; slight tenderness or gurgling in the right iliac fossa, no headache, pupils normal.

Gave sodium salicylate, 3 gr., with ext. glycyrrhiza every three hours; milk diet, and told them to report his condition if not well in a few days.

Saw nothing more of him and heard nothing from him until three weeks later he came to my office, August 17th, when he had a well-marked jaundice, and on examination I found the lower border of the liver on a level with the umbilicus, the ribs being somewhat raised upwards, the whole abdomen bulged forward and very prominent. On palpation there was no doubt of there being an enlarged liver, not markedly tender; his temp. was normal, pulse 60. On enquiry I learned that after my previous visit, though ordered milk diet, he had been eating anything and everything that he wished.

I gave 3 gr. calomel, to be followed by 1 dram of mag. sulph., and after the bowels moved,  $\frac{1}{2}$ -dram doses of soda phosph., three times a day; milk diet and warm clothing ordered. He returned, Aug. 20th, the day Dr. Olmsted saw him with me.

As the bowels were rather costive, I ordered the soda phosph. increased to 1 dram three times a day; stools clay-colored; urine loaded with bile.

Stools remained clay-colored until Sept. 25th, 60 days after my first visit, the longest time I have been able to find recorded.

After this the jaundice gradually subsided, and the liver returned to normal size about Nov. 3rd, over three months from onset.

*Treatment.*—This is common sense and general principles.

It should be remembered that the stomach and duodenum are assumed to be in an inflamed and catarrhal condition, and functional rest is of all measures the best for the removal of this state.

Mild cases do well, if properly protected from exposure to cold, on restricted diet, with plenty of water and lemonade. Cases of average severity do better confined to the house on warm milk diet, adding about 1 grain of bi-carbonate of soda to each ounce of milk. Beef tea, beef soup, free from fat, vegetables, and well-ripened fruits are allowable in most cases. Alkaline waters, such as Vichy and Apollinaris, are recommended. The bowels should be moved every other day by calomel, followed by a saline purge. When the pain is severe, poultices of hot linseed meal and mustard give prompt relief, the patient under such circumstances being confined to bed.

For vomiting give bismuth and oxalate of cerium.

For diarrhœa, while the feces are not bile-stained, I have found the sulpho-carbolates of soda and zinc or salol quite satisfactory. Occasionally enemas are always in order. When the feces are bile-stained, Watson's chlorine mixture with quinine, in some cases, seemed preferable.

In the general treatment of these cases a great many remedies have been recommended. Two of these we cannot pass without notice, namely, the phosphate and salicylate of soda, the former being very highly recommended, given in dram doses in hot water three or four times a day. I have used it in many cases but did not think that I got any better results than from the hot milk and soda bi-carb. The salicylate of soda, flavored with glycerin and extract of glycyrrhiza, did well in some cases, but many object to it on account of its nauseous taste. The restricted diet should in all cases be continued for a week or two after the jaundice has disappeared.



## A RARE CAUSE OF DELAY IN THE FIRST STAGE OF LABOR.\*

By ASHTON FLETCHER, M.D., C.M.,

Obstetrician to the Toronto Western Hospital; Lecturer on Obstetrics in the Training School, etc.

**D**ELAY in the first stage may be due to occlusion of the os uteri. This, of, course, is very rare and must occur after pregnancy has taken place.

It is the result of adhesive inflammation. This may be due to an attack of cervicitis from some traumatic cause, such as may be set up by an instrumental attempt to terminate an undesired pregnancy. Or a hemorrhage from any cause may result in a clot forming in the os, which may become organized.

*Diagnosis.*—Under anaesthesia, if necessary to introduce the entire hand into the vagina, careful exploration of the vagina must be made. This will reveal the vaginal mucous membrane, continuous over the presenting part, as a smooth membrane and without interruption in any direction. No os can be found after search high up under the pubes and high up at the back in the sac of Douglas.

Sometimes we will find the cervix here with the anterior lip hooded over the presenting part. This condition will give exactly the same appearance and feel as occlusion.

*Prognosis.*—If the condition of occlusion is recognized and properly treated there is no risk. If not, rupture of the uterus, or a tearing off of the whole cervix, in front of the presenting part, may occur.

*Treatment.*—This is simple. The spot, where the os should be, should be searched for and when found scratched through with the finger, as in rupturing the membranes, when their object has been accomplished. Or a crucial incision may be made with a guarded knife. There is not much bleeding and, if laceration should occur, the cervix must be stitched up at once after delivery. One word as to the hooded anterior lip cases. Hook the finger in the os and draw downward and forward during two or three pains. I have met this condition once and give the history:

Mrs. R. C., pregnant for the fifth time. On June 29th, 1898, was called at 7 p.m. Abdominal palpation showed a child in the left occipito-anterior position, and pains good. At 12 I made an examination with the whole hand in the vagina and could not find any os. After most careful search up over the pubes, I came to the conclusion that there must be some closure, and felt carefully over the apex of the presentation, where I felt a line, as like the line in the palm of the hand as could be. Through this I went with the finger, and had the pleasure of knowing that I had done the proper thing when the membranes ruptured with the next pain, and the os was found dilated to three inches diameter.

\* Read at a staff meeting of the Western Hospital.

The child was born at one, with the cord round its neck and one arm. In this case the use of a crochet hook to produce abortion was admitted and she told me that it was followed by a flooding which frightened her, and she gave up further efforts. There was a considerable hemorrhage, which stopped in an hour.

The nurse in this case had been at a case of diphtheria, and two of the children contracted it from her, but the mother and babe escaped, while the eldest child died.

Jardine, of Glasgow, mentions having seen five cases, and gives the following histories of two:—

The first case was in a second pregnancy. It was also, undoubtedly, a case of prolonged gestation, as 305 days had elapsed from the cessation of menstruation until the patient was delivered. Some three weeks before delivery pains had occurred for several hours, and the patient thought that labor had commenced, but the pains had ceased. She was not examined then. When I saw her she was having strong pains, and, on examination, I found the os was completely occluded. The cervix was stretched over the presenting head. A small depression indicated where the os ought to have been. A careful examination under chloroform confirmed this. A crucial incision was made at the depression, and dilatation was easily accomplished. Forceps were applied and the head delivered without very much difficulty, but the shoulders and chest of the child were so large that great difficulty was experienced in delivering the body. The child was one of the largest I have ever seen delivered. Unfortunately it was dead. The patient made a good recovery, and subsequently the cervix presented the normal appearance of an ordinary multiparous one.

Case two.—The patient, a primipara, aged 30, had been in labor three days when first seen by me. A midwife, who was in attendance, thought that the os was partially dilated. The patient was a stout, healthy woman, and had been married for 13 years. She was not aware of there having been a vaginal discharge during pregnancy, nor had she suffered any pain. I found she was having very strong expulsive pains. Bandl's ring could not be palpated. Per vaginam the head was felt in the pelvis with the cervix stretched over it. The os was completely closed, but a small depression revealed its position. Inspection under chloroform confirmed this. The surroundings of the patient were very insanitary, but, as she refused to go to the hospital, I had to do the best I could for her where she was. I managed to tear through the adhesions with my finger nail. Dilatation was easy, and there was no difficulty in delivering a living child with the forceps. As in the other case there was no bleeding. The patient made an excellent recovery. I examined her some months later and found the cervix showed very little indication that she had ever had a child.

Dr. Jno. Hunter examined my case some time after her confinement, and having learned from her the peculiar condition at her previous confinement examined her carefully. He reported to me that he had found the cervix in a good condition and that she was again pregnant.

1215 College street.

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THE BASES OF SUCCESS—THE RECTORAL ADDRESS AT THE  
UNIVERSITY OF ABERDEEN.

By SIR FREDERICK TREVES, Bart., G.C.V.C., C.B., LL.D.,  
Sergeant Surgeon to His Majesty the King.

MY first words within the walls of this University must be to thank you for the very distinguished honor you have so graciously conferred upon me. Those ambitions which range within the quiet compass of a professional life must be indeed extravagant if they are not, once and for all, realized by such a position as that to which you have called me—the Rector of an ancient, famous, and ever-advancing University. When I look back upon the long line of illustrious men who have occupied this office, I feel that it is unnecessary to explain to the world that it is by your generous intention and not by my own merit that I find myself in this august company. The value and dignity of an honor rest as much with the giver as with the gift. Those who are young hold in esteem the approval and commendation of their elders. Those who have, on the other hand, reached or passed the meridian of life, prize that approval the highest which comes from the ranks of youth. It will always be to me a matter of the greatest pride that I owe my present position to a body representative of young Scotland, for the youth of Scotland have ever been conspicuous for the fine qualities of determination, hardihood and enterprise. You are gathered at the gate of that arena in which will be enacted the drama of your lives; you are about to enter upon that stern campaign in which every man who has work before him must be perforce engaged. During the pleasant years which have been spent within these walls you have amassed a stock of learning which will form your handiest equipment in the fight. In contemplating the products of your industry, I cannot but be reminded of a familiar scene in Table Bay at the outset of the South African war—the picture of a quay piled up to the skies with masses of stores collected, with no little bustle and concern, waiting to be hurried up country to fulfil the many ends of “the sinews of war.” From my knowledge of the practical character of the teaching in Aberdeen I am well assured that the material in your accumulation of stores is not only sound but serviceable. It now rests with you to make the best of an admirable equipment, although I need not remind you that in the modern *Æneid* of “Arms and the Man” the arm counts for little while every expectation hangs upon the hand that grips it.

## FACTORS WHICH MAKE FOR SUCCESS.

In the few remarks for which I would solicit your attention I should like to discuss the factors which appear to make for success in life, and I trust that I shall be pardoned if my illustrations are drawn largely from the only career with which I am intimately acquainted—the career of a medical man. That the pursuit of medicine should, by the way, seem fascinating to many is, I think, intelligible. I am disposed to believe that there have been more heroic men in this calling than in any other. The heroism may not be of a dramatic type nor of a thrilling character. It is a heroism based upon self-sacrifice which accomplished under obscure conditions, has more than once signified that a man has laid down his life not only for a friend but for the stranger beyond his gates. It is in the humbler walks of the profession that men who have thus borne themselves gallantly are to be found. I should not seek for such men at a great medical festival held in some lordly hall where ornate toasts are proposed amid every evidence of ease and luxury. I would rather think that on the very night of such a festival in some far-off part of the country, on a bleak moor perhaps, a solitary man in a gig is pushing through the dark, against wind and rain, to help another who is poorer than himself. Indeed, the true spirit of the profession of medicine is not to be illustrated by the brilliant surgeon who holds the operating theatre spell-bound nor by the learned teacher who can grasp the attention of a crowded audience, but rather by the lonely figure of the man in the gig.

## ROMANCE OF MODERN MEDICINE.

There is, moreover, a glamor of romance in modern medicine which draws hesitating steps as surely as did the notes of the piper of Hamelin. Never have boys tired in the reading of stories of adventure and discovery, no matter whether the valiant ship were the shadowy "Argo" or that bluff, weather-beaten brig the "Golden Hind," in the command of Sir Francis Drake. Now few lands are left on the earth to discover, but in the world of medical research are whole continents, whose beaches have been trodden by no human foot, whose mysterious capes no sail has weathered, and into whose silent bays has never broken the sound of a prying keel. The romance of discovery would perhaps be sought among the voyagings of some old explorer whose grey ship has drifted westwards for many a hopeless month until at last, upon eyes haggard with famine, there break the purple heights of a new world. The captain, as he stands in his rags on the poop, is a heroic figure enough, but I do not know that the picture is outdone by another I would call to your mind. In a prosaic room you will see a man worn by long and monotonous toil. He stands by the window, and his gaze is

fixed with rapture upon a needle which he holds in his hand. On the point of that needle is an almost invisible speck. The man is Laennec, and the thing on the needle tip is a miliary tubercle. By this discovery stood revealed the borders of a new country and the apparent seed of a disease which had sapped mysteriously the youth of the world. In another realm of romance are the pathfinder, the man who tracks down his enemy with the instinct of a hound, the supernatural detective who, creeping from clue to clue, pieces together the fragments of a crime. There are few detective stories, however, that can surpass the true tale of the tracking down of the miscreant malaria, after many years of astute watchfulness. For all time this bringer of disease has been an evil genius, a vampire of the marsh that fed upon its victims in the dead of night. Now, as you know, the ghost is laid, and the mystery is reduced to a few cells which can be kept in a bottle and grown as tamely as a gardener rears cabbage. In the history of medicine, too, are records which lack little of the spirit of the ancient legend. The legend of St. George, the patron saint of England, is perhaps too crude to more than outlast the interest of the nursery. Yet it is a gallant story of a dragon that breathed death and destruction from a mouth of flames that, defying all champions, finally fell before the spear of the English saint. Yet there was just such a dragon on the earth before the advent of aseptic surgery, a dragon whose very touch was decay and dissolution, who, standing like a shadow behind the man of healing, made mockery of his efforts and turned his good intentions into ill. It was a surgeon from Scotland who slew this terror, and his achievement was infinitely more wonderful than that blazoned by the allsubduing spear of the immortal saint.

#### SOME OF THE CONDITIONS NECESSARY.

In enumerating the factors which make up success in life, one is early met with the assurance that such success depends largely upon money, upon influence and social position, upon good fortune, and above all upon the possession of genius. The lack of these supposed advantages is apt to chill the ardor of some who are aiming at success, and to provide excuses for others who decline the attempt as hopeless. With regard to the financial qualification, I have no hesitation in saying that ample, or even moderate, means at the outset of a career not only fail to constitute an element in professional advancement, but are an actual hindrance to a sturdy independent progress. It will be claimed that a man with money is better able to devote his energies to original research inasmuch as he is spared the unproductive drudgery involved in earning his daily bread. I do not consider that that drudgery is unproductive, and I have often noticed that the much extolled leisure of the man of means is apt to be devoted to original research in such pursuits as those

of golf and fly-fishing. The lives of men who have become eminent in the medical profession emphatically demonstrate that unearned money counts for nothing in the struggle to excel, and of this fact the interesting autobiography of Sir James Paget provides a graphic illustration. If it is hard for a rich man to enter the kingdom of heaven, it is, I believe, still harder for a man so burdened to enter with advantage upon the career of medicine. In like manner neither influence nor an initial social position is to be reckoned as conducive to real success. No influence in the world will make a worthless man worthy nor an incompetent man capable. It is a broken reed which reveals the feebleness of the unready, while to the strong man it is no fit substitute for his own stout staff. To any young man who feels that he is hampered in his start in life by the lack of what is called a social standing I would commend these words of Hans Andersen: "To be born in a duck's nest in a farm-yard is of no consequence to a bird, if it is hatched from a swan's egg." Once more it is a common plea of the faint-hearted that success depends mainly upon luck, and that their rival has attained a position by a bestowal of good fortune which has been denied to them. I am no believer in luck, and the man who is content to wait for a stroke of good fortune will probably wait until he has a stroke of paralysis. Luck in any serious profession means nothing more than this, that the man to whom it comes was ready for an opportunity when it presented itself. Like opportunities may happen to many, but such only are called fortunate as fall in the path of the ready man. I have no faith in the moral of the story of Dick Whittington. It is claimed that fortune beamed on him when he heard the bells of London ring "Turn again Whittington, Lord Mayor of London." The poor apprentice owed his success not to the happy accident of a delusion of hearing, but to the confidence he had that if he turned back he could master the great city.

#### WHAT IS GENIUS?

Most specious of all is the contention that success in a profession needs genius, and that without some supernatural ability the conflict is vain. A man who attempts to excuse failure by pleading that he is not a genius is more lacking than he owns. Genius is apparently an unstable commodity, for the definitions of it are very varied. It would seem to be the outcome of a readily working brain mechanism, the machinery of which need not be elaborate so long as it be easily set in action. The nervous organization of the genius is sensitive; it responds vividly to impressions, and is alert and liberal in its reflex movements. The stimulus it receives becomes rapidly diffused producing results which are, however, often bizarre, disorderly, and unexpected. The genius is quick in perception, is uncertain in action. His thought travels by paths

of little resistance, and is influenced by a fickle control. His results, if often admirable, are as often merely curious. "To make the common marvellous, as if it were a revelation, is," according to Lowell, "the test of genius." The man of genius is said to be inventive, but there is little value in inventing for the sake of inventing. He is said to be original, yet it is possible for any man to be original, but unless the quality leads to some profit it is as little use to be original as to be an albino. Genius in its crude or native state is not wanted in the profession of medicine, nor can it be said to be a marked attribute of those who have raised themselves to the highest position in that calling. If, as Goethe declares, "it is a characteristic of genius to disturb all settled ideas," then certainly Sydenham, with his robust unbelief, was a genius. The marvellous achievements of Harvey, Hunter and Lister were not the outcome of any brilliant flash of genius nor of any inspiration which was denied to less fortunate mortals, but were the product of slow, dogged, persistent work. If they had genius it was in the form of that "sovereign capacity for patience" which Buffon held in such esteem, or else the sterling quality grew upon them in the manner described by Lytton when he maintained that "every man who observes vigilantly and resolves steadfastly, grows unconsciously into a genius." Genius in a physician would be apt to give us flippancy, instantaneous diagnoses, the detection of disease by instinct, and other astounding phenomena which one attributes rather to the charlatan. In like manner, brilliancy in a surgeon is a quality from the possession of which he may well pray to be saved. In the days before anesthetics, the chief qualification of the operator was rapidity. Sleight of hand then counted for much, while the shortening of pain weighed against the dangers of being a marvel-maker. Success in surgery is measured now, not by the duration of the operation, but by the duration of the recovery from it. This is the day of artificial products and of synthetical compounds. I venture to think that—so far as the needs of most professions are concerned—the synthetically composed genius is better than the congenital genius, and is, at the same time, safer and more reliable. Into the making of the synthetic genius will enter the genius for hard work, for patient observation and experiment, for persistent reasoning. These factors have no supernatural origin, are not uncommon gifts, but are within the reach of any mortal who is determined to claim them and make use of them.

#### THE REAL FACTORS IN LIFE.

If these be negligible qualifications the following may claim, I think, a more substantial position as factors which make for distinction in a professional career. Briefly enumerated, they are health, serviceable

knowledge, sympathy, and honesty. Industry is pre-supposed, just as one cannot conceive of a moving mill-wheel without a stream. The first-named of these needs little comment. Robust health is an absolute requirement for all who would attain the foremost ranks in any strenuous profession. No one but a strong man can bear the burden of a really busy professional life. Health, however, means more than a mere capacity for endurance. Upon it depends, to a large extent, the actual quality of the work accomplished. Sound health does much to ensure an equable mind, a prompt judgment, a disregard or unconsciousness of worry, and generally that serenity of disposition which characterized the fishermen in Isaac Walton's pastoral. The operator who is engaged in a serious procedure, and who is "out of condition," may be somewhat of a menace to his patient. He soon tires; he is apt to be fussy and emotional, to be readily upset, to drift between vacillation and obstinacy, and so become both physically and mentally unsteady. With regard to the second point, special knowledge is an obvious essential, and when that knowledge has been perfected by experience he who can claim it becomes a power among men. A highly cultivated particular knowledge is indeed a mighty possession, as well as the surest means of securing the world's confidence. To be of the fullest service it must be supplemented by an intimate knowledge of mankind, a phase of learning which is to be derived from no text-book. The anatomy and physiology of man, as a social being, are subjects hard and slow to learn, and the acquiring of this cult is not aided by what may have been learnt in the dissecting room or the laboratory. The beginner soon discovers that a recognition of all the points of a man's armor teaches little as to the wearer's temper, tastes, and idiosyncrasies. He also becomes aware that in the mathematics of life there is no factor more important than the personal equation. In medicine as in allied pursuits this extra-academic lore, which can be represented by no University degree nor tested by any system of inquisition, undoubtedly plays a singularly important part. Among the accomplishments of the most learned it may be the one thing lacking. The neophyte is in the position of one who has learnt of a country by the laborious study of maps. However elaborate such maps may be, the landscape remains vague and colorless until its high-ways are actually traversed and its hills and valleys open upon the eye. The successful physician is a finished student of men, an augur, a reader of signs. He constructs the individual from closely observed fragments, just as the paleontologist builds up a Saurian from fossil scraps. "Ex pede Herculem" involves an effort in inference which such a man would leave to the simple, for he could fashion even Omphale out of far less substantial relics.



## WHAT THE PUBLIC DEMAND.

It is to be noted that the public demand from the medical man an absolute dogmatism and an unwavering assumption of knowledge. The lawyer may talk to his client of the uncertainties of the law, of issues that are open to doubt, of conclusions that may prove to be wrong. The sick man will have none of this. He requires to know the name, nature, and intent of his disorder. He will listen to no possibilities. The adviser who owns that he does not know is soon replaced by the counsellor that does. This demand for absolute dogmatism—which is not always limited to the unintelligent—makes the path of the practitioner hard and possibly devious. Medicine is now fortunately approaching the state of a precise science, yet in olden days it shared with poetry the most favorable arena for the display of imagery and invention. The medieval patient demanded from his physician the truth, when the supply of that commodity was as limited as that of radium. As neither truth nor absolutism could be furnished from exact knowledge the deficiency had to be made good by fiction. The less that was known the more there was that must needs be invented. At this juncture there appeared, in the place of knowledge, that comforting fancy, the humoral pathology. The physician's real ignorance was pleasantly hidden by the assurance that a certain malady was due to a "mucous humor," while another owed its origin to the working of a "sanguineous humor." The sick man was satisfied by the ingenious myths, and the bewildered physician had peace. At the present day there is neither need nor excuse for gratuitous invention. It is not even necessary to babble of the patient's "constitution"—whatever that may be—of his lack of "tone," or of other agreeable matters which belong the limbo of mere words. On the other hand, there is a mass of sterling facts available which will satisfy all the demands of the unreasonable, and he who will be convincing in counsel must not only have them in his grasp, but must possess in addition a knowledge of the traits of those who wait upon his utterances.

## THE VALUE OF SYMPATHY.

In every pursuit which deals intimately with the concerns of man sympathy counts for much. This quality is something more than a mere profession of kindness aptly expressed by suitable platitudes. It is rather such an attitude of mind as may be reached by any who can project themselves into another's place. The physician who is able to conceive of a disease not only as his art should show it him, but as it appears to the view of his patient, has grasped the foundations of therapeutics. Such a twofold vision will accredit him not only with gentleness and consideration, but also with tact and insight. Want of thought implies a greater void than want of heart when the lack involves an ignoring of the sick

man's outlook upon his own affairs. He who would walk in another's steps must needs walk delicately. As a small instance, I may cite the proposition that blunt outspoken truth is always commendable. Theoretically the proposition is sound; in practice it may lead to confusion. If the bald truth were always uttered the gentle fabric of social life would crumble to the ground in a day. Indeed, what we are disposed to term pleasant manners, or even good manners, are largely concerned with a discreet dallying with the truth. The much-extolled proclaiming of plain facts may, on occasion, be coarse as well as needlessly cruel. I remember once in South Africa being asked by a civilian surgeon—a most able and kindly man—to see a soldier who had been shot in the leg. The surgeon concluded his account of the case by placing his hand on the patient's thigh with the observation that it was at that spot that he proposed to amputate the limb. The proposal was wise, but it was in this fashion that the man learnt, for the first time, that he was to lose his leg, and I think the announcement was ill-made. Let the mariner know the worst of the wind that is to blow, but that same wind may well be tempered to the shorn lamb. The soundest sympathy—as far as medicine is concerned—is based upon what chemists call a process of substitution, where, in the compound the atom of the physician replaces the atom of the man.

#### HONESTY THE ONLY POLICY.

Finally, in this calling, as in others, there is no possibility of sure success without honesty. I would not use the term the strictest honesty, for there is only one degree of honesty. It is not a quality with grades and convenient modulations. It either is, or it is not. Into the hands of the physician is placed a candid and unquestioning trust, into his ears are poured solemn as well as sordid secrets, while in the revelations of men's lives there is no confessional which can claim the pitiable candor of the doctor's room. No professional career is more full of minor difficulties, of minor temptations, and of small pitfalls than is the career of medicine, and in the handling of these there is but one line of conduct open to whomsoever would do well. In the business relations also of a doctor's life it is beyond doubt that—from the very lowest commercial standpoint—honesty is not only the best policy but the only policy. The dangerous axiom that "nothing succeeds like success" is no article of faith in the true *religio medici*. Success in this particular career can never be gauged, and has indeed never been measured, by the mere acquiring of wealth. Those who have made the profession of medicine great have made no pretence that riches were among their gains. If this be reckoned as a loss at least the consolation endures that, by the earning of gratitude, the humblest practitioner can claim to be among the few who ever lay hold of that wealth, which is—in a peculiar sense—"beyond the dream of avarice."

## THE VALUE OF VACCINATION.

BY DRs. MACALLUM, SHEARD, OLDRIGHT AND OTHERS.

IT is extremely difficult to deal with those who are so ignorant as not to be able to grasp the arguments of a case, and still more difficult to convince those who are under the government of blind prejudice. This is the position of Toronto in the matter of vaccination. To the educated doctor there is nothing more completely proven than that proper vaccination prevents smallpox.

It is now admitted that vaccinia is a modified form of smallpox, and therefore is a genuine and scientific preventive measure.

Let us take the epidemic of smallpox in Sheffield, in 1887-88, and divide the population into two great groups—those under ten years of age, and those over ten years. For each 1,000 persons in each class we find that for those under ten the attack-rate among the vaccinated was 5, among the unvaccinated, 101; the death rate among the vaccinated was 0.09, among the unvaccinated, 44. For each 1,000 over ten years the attack-rate among those twice vaccinated was 3, among those once vaccinated, 19, and among those unvaccinated, 94; the death rate among those twice vaccinated was 0.08, among those once vaccinated, 1, and among those unvaccinated, 51. We wonder if such startling figures would make any impression upon the members of Toronto's Board of Education?

Among 851 vaccinated children under ten years who contracted smallpox the death rate was only 1.4 per cent. Among 1,783 cases of smallpox in unvaccinated children under ten the death rate was 35.6 per cent.

In Leicester in 1892 and 1893 there were two cases of smallpox among vaccinated children under ten years, and without a death. Among the unvaccinated children of the same age there were 107 cases and 15 deaths. Among those over ten years of age there were 197 cases with two deaths among the vaccinated, and 51 cases and four deaths among the unvaccinated.

Turning to Warrington, Dewsbury and Gloucester, all centres of anti-vaccinationist activity, and we find equally bad results.

When we look at the record of vaccination in London we find figures that are most weighty. Just before the introduction of vaccination the death rate from smallpox per 1,000,000 was 5,020 per year. From 1801-10 it fell to 2,040, from 1831 to 35 it was 830, from 1838-53 it came down to 513, from 1854-71 it was only 388, from 1872-82 it was 262, and from 1883-92 it was just 73. Proof there is here and to spare.

In Germany, where every child must be vaccinated, and re-vaccinated at least once at the age of 12, there is no smallpox. Three years ago

in a population of 54,000,000, there were only 58 cases, and these were from other countries.

Smallpox epidemics come high. It cost Philadelphia, a short time ago, \$2,000,000 to manage its smallpox cases. In the case of Montreal the trade of the city was seriously injured for years, in addition to the actual cost at the time, and a death roll of over 3,000. It may be safely asserted that in Europe during the past fifty years vaccination has saved more lives than all her wars have destroyed. The fearful cases of damage to health and loss of life through vaccination seem to be known only to the anti-vaccinationists. We think it is the bounden duty of the government to appoint a strong commission to investigate such statements as were made by Mr. Parkinson at the Board of Education. These people should be made to prove their statements or keep silence.

The record of the German, Italian, French and British armies afford very weighty arguments in support of the position, "The more efficient the vaccination the less the incidence of smallpox."

The following letters give both sides of the case, and should have a more permanent form than the daily press. The question is not only one for Toronto, but will soon be one for the entire Province.—*Editor.*

#### AN URGENT NEED FOR VACCINATION.

To the Editor of *The Mail and Empire* :

SIR,—All well-wishers for the success of the experiment of a Board of Trustees elected by the people at large must have been amazed at the action taken by that body at its last meeting in regard to the vaccination question. A petition had been presented to it some two weeks before, containing, it is said, nearly a thousand names, asking that the regulation making vaccination compulsory among school children be rescinded or withdrawn. The board, on the motion of a member whose intelligence or whose honesty may be gauged by his remark that he objected to vaccination on the ground that it was the introduction of "filthy animal matter" into the system, rescinded the regulation. We are informed that one of the members, Mr. Parkinson, in the course of a speech to the board, stated that in a case he knew in which over 600 children had been vaccinated, in 48 hours six had been made cripples for life, and he left it to be inferred that for this vaccination was responsible. How, if that were the case, the other 600 or more escaped he did not say, but it is instructive to note that a member of the board, who ought to know better, is ready to make pernicious statements of this kind.

That the step taken by the board was the first in a series of moves, the aim of which is to do away with the safeguards against smallpox epidemics in Toronto, is shown in the call made by the Anti-Vaccination

League for a mass meeting in Massey Hall next week to begin the agitation to do away with compulsory vaccination, that is, to open Toronto to smallpox.

Perhaps the majority of the board did not foresee this, but whether they did or not is not creditable to them. There are over 30,000 voters in Toronto, and the board yielded to the clamor of less than a thousand, made up partly of Christian Scientists, self-styled, who believe that smallpox may be cured by faith, and in very great part by those calling themselves anti-vaccinationists, who are, in the vast majority of cases, of that class of people who cannot weigh evidence or appreciate facts, but who are swayed by an idea which no reasoning can dislodge. To such the facts of vaccination establishing that it is the one, and only one, available preventive of smallpox, is as dust in the balance against their prejudices, and to attempt to discuss the question with them would be, as Sidney Smith pointed out in a similar instance, as futile as to attempt to poultice the humps of a camel's back. Such people are constantly spreading misrepresentations, which in time must result in a serious situation, unless their course is checked. I have before me now a letter which one of the city papers has seen fit to publish in its Saturday issue, and out of which I take the following statement regarding vaccination :

"The reports from the various parts of Ontario showed more deaths from the remedy than the disease, by not less than three to one, to say nothing of those whose constitutions were wrecked."

"Regarding those exposed to infection, no shadow of difference could be detected between those vaccinated and those not, both classes escaped, and both contracted the disease without distinction."

I quote these extracts, not for the purpose of refuting the statements, but simply to call attention of the sane people of this city to the manner in which the anti-vaccination campaign now going on is being promoted, and what utterly irresponsible people are engaged in it.

That the anti-vaccinationists were justified in regarding the board's decision as a great victory for their view may be seen on a little consideration of the ultimate effect. If vaccination is not insisted on, the vast majority of the school children will, in four or five years, be unvaccinated, and then if smallpox should break out, say, during the Industrial Exhibition week, it would get into the schools, and the disease would blaze forth at hundreds of points in the city. This is shown by the experience of the cities of Gloucester and Leicester, in England. In the former city vaccination was not compulsory before 1897, and in 1896, when the smallpox broke out, there developed 1,979 cases, of whom 1,000 were children under fourteen and 706 under ten years of age. The official of the Imperial Government who investigated the conditions

of the outbreak reported that "The conviction is forced on me that Gloucester would not have suffered as it did had its child population been vaccinated." In the Leicester epidemic of 1892-3, of the children under ten who were attacked, 96.1 per cent, were unvaccinated.

All this shows why compulsory vaccination of school children is necessary, and it brings into clear light the folly of the action of the School Board.

We may have to pay heavily for the School Board's surrender to the anti-vaccinationists. Some years ago when Montreal, through lack of compulsory vaccination, had over 3,000 cases of smallpox, the Province of Ontario practically enforced a quarantine against it, and it cost that city, in expenditure to check the disease and in the loss of trade consequent on the epidemic, about \$2,000,000. If a smallpox epidemic were in the next few years to break out in an unvaccinated Toronto the province might treat it as it did Montreal, and the cost would be not \$2,000,000, but possibly double or treble that sum, with the additional result that the prospects of the city for a generation would be injured.

It is now a question for the business people and citizens of Toronto whether the city shall succumb to the anti-vaccination craze, which has got a strong foothold through the action of the School Board. It is also the duty of sane citizens of Toronto to remember at the next two elections of the School Board the names of those who were untrue to the interests of the city.

Yours, etc.,

A. B. MACALLUM.

Toronto, March 5th.

#### CONCERNING VACCINATION.

If there is to be any relaxation of our securities against smallpox it is to be hoped that it will be adopted under the authority of trained science, not of elective ignorance. There has been in England a revolt against vaccination, emanating largely from the same quarter as other faddist movements, sanitary, civil, and religious. Let people, so long as their crotchets are not dangerous, or dangerous to themselves alone, go where their fancy leads them. They cannot be allowed to sport with the health of the community. Persons far less than a hundred years old can well remember seeing many a face, and many a face once beautiful, ruined by the fell traces of the terrible scourge. Now a face pitted with smallpox is rarely seen in England, hardly ever seen here. It is idle to contend that vaccination did not save the world from smallpox, when scores of people are still alive who can depose as eye-witnesses of the fact. A physician defending the existing rule, which excludes from the schools unvaccinated children, concedes the right of parents to do as they please

with their own children, mildly deprecating an abuse of the right. No such right exists if its exercise imperils the health of the community. The matter does not belong to the school boards; it belongs to the health officer. The question concerns not the city alone; once started, the plague would spread.

"Of all those who by science diminished the amount of domestic sorrow and enlarged the average term of human life," says Charles Knight, the historian, "was the physician who for half a century had been striving in vain to make the world feel confidence in his discovery of vaccination. For thirty years after this antidote to the smallpox was first practised, in 1800, the wholly ignorant and imperfectly educated still stood in the way of the general diffusion of this great blessing of our era. Now the law prescribes that every child born in the kingdom must be vaccinated. We look back upon the time when many who had escaped with life from the terrible disease that killed ninety-two in every thousand of the population, bore into our public places the indelible marks of the scourge, and we rejoice to behold now the unscarred faces of the young as the best tribute to the memory of Edward Jenner."—A Bystander (Mr. Goldwin Smith), in *The Weekly Sun*.

#### REPLY TO PROF. MACALLUM.

To the Editor of *The Mail and Empire* :

SIR,—The long, hysterical article in your issue of the 6th inst., entitled "An Urgent Need for Vaccination," calls for reply. The serenity so long displayed by that august body to which Prof. Macallum belongs has been sadly ruffled by recent happenings. The "experiment of a board of trustees elected by the people at large" he evidently regards as a failure. It was all right twelve years ago when the present Medical Health Officer, Dr. Sheard, and a trio of M.D.'s who happened to be school trustees at that time, contrived to evade the provisions of the general Vaccination Act by getting the board of that day to adopt the pernicious measure which the enlightened board of this day abolished unanimously on the 1st inst. The anti-vaccinists are now the onlookers, while he and his fellow blood-poisoners are doing the dancing.

A case so good as Prof. Macallum alleges his to be can only suffer by the coarse abuse in which he indulges. Trustee Levee's objection to vaccination on the ground that it was the "introduction of 'filthy animal matter' into the system" is certainly no reason for impugning his "intelligence" or his "honesty," as is done by Prof. Macallum. If the latter avers that putrid pus from sores on the body of a diseased calf (and this is what vaccine is in its best state), can be anything but "filthy animal matter," his own intelligence and honesty are at fault, and not Mr. Levee's. The highest authority can, if necessary, be furnished for this.

His treatment of Trustee Parkinson is not less unfortunate. Had he listened to that forceful address, instead of depending upon a meagre report of it, even his professional mind might have inclined to the inference which Mr. Parkinson and many other fairly well qualified thinkers drew. Six young and promising lives blasted out of 600 may seem to him a puny offering to his fetish, but it was a terrible tragedy for them and their parents, and, moreover, it was as high a rate of mortality as has attached to recent smallpox visitations in Ontario.

Prof. Macullum's assertion that "in the Leicester epidemic of 1892-1893 of the children under ten who were attacked 96.1 per cent. were unvaccinated!" is, according to the "report" issued by Dr. Millard, Medical Health Officer for Leicester, shamefully misleading. In 1892-3 there were 347 cases of smallpox. Of these "190 were vaccinated, 153 unvaccinated, and four uncertain."

When it is understool that this occurred in a population of which 90 per cent. are unvaccinated it will not appear strange that even "anti-vaccinists," who, (according to him) "cannot weigh evidence or appreciate facts," are "swayed by an idea which no reasoning" (such as Prof. Macullum) "can dislodge." Moreover, it appears from Dr. Millard's report that the average annual smallpox mortality in Leicester for thirty-one years, 1873-1903 (*i.e.* since the great epidemic 1871 and 1872—a period in which vaccination has been largely abandoned) is only 1.2 per 100,000 living, as compared with 44.6 for the preceding thirty-five years (1838-1872), during a large part of which 95 per cent. of the births were vaccinated—when in fact vaccination was "as complete as endeavors could make it." Dr. Millard, be it noted, is not an anti-vaccinist.

Then, as to Gloucester, his assertion that "vaccination was not compulsory before 1897," in view of the fact (which everyone who has given any attention to the subject knows) that the compulsory Vaccination Act for England was passed in 1853, simply demonstrates that he knows next to nothing of the question, and it would, therefore, be wisdom on his part to refrain from meddling with that which can only bring to him "vexation of spirit."

With such names as Prof. Creighton, of Cambridge; Prof. Crookshank, of King's College, London, England; Alfred Russel Wallace, LL.D., D.C.L., Oxon., F.R.S., etc., and Herbert Spencer, etc., in their ranks, it ill becomes a Toronto professor to sneer at the anti-vaccinists.

He quotes two paragraphs from a letter which appeared in an evening paper of 3rd inst., "not for the purpose of refuting the statement" (he tells us) "but simply to call attention of the sane people of this city to the manner in which the anti-vaccination campaign now going on is being promoted, and what utterly irresponsible people are engaged in



it." This is rather rich, in face of his own effusion! In the first place he was not able to refute the writer's statements. They are the result of personal experience on the part of one apparently well qualified to judge; and, in the second place, his remark that "to attempt to discuss the question with anti-vaccinists would be as futile as to attempt to poultice the humps off a camel's back" is obviously misapplied—your readers will be the best judges as to where the poultice is needed.

In conclusion, let me say that his information about the members who signed the petition is in keeping with all the rest. There were 5,000 names (not 1,000) secured, and less than 6,000 were approached. The testimony of three gentlemen who obtained most names is to the effect that 85 per cent. of those solicited signed. There is no reason to doubt that 25,000 could be got with a reasonable degree of effort. It is because of this fact that the Board of Education, who are more accustomed to reading this barometer than Prof. Macallum, had the good sense to vote as they did.

Yours, etc.,

R. S. WEIR.

Secretary-Treasurer Anti-Vaccination League, Toronto.

March 7th, 1906.

#### ANTI-VACCINATION MEETING.

The anti-vaccinationists mustered in large numbers last night at Massey Hall for an illustrated lecture on the "Evils of Vaccination." Fully one-third of the seats were occupied, and the promoters may flatter themselves that they had an audience composed of thinking people. There were undoubtedly a few enthusiasts present who displayed rather exaggerated appreciation of very feeble points in the lecture, but the majority were people who had come to learn what they could on the vexed question.

Mr. L. S. Levee, who, as Board of Education trustee, was responsible for the abrogation of the by-law making vaccination compulsory as a condition of admission to the Public Schools of Toronto, occupied the chair, and was supported on the platform by Mr. J. D. Nasmith and other well-known leaguers.

The speaker of the evening was Mr. Joseph McCuaig, who quoted very extensively from statistics, collected principally in England, against vaccination. The salutary effects of vaccination in practically stamping out smallpox in such countries as Germany and Japan, where it has been rigorously and scientifically enforced, were, however, completely ignored. It must have appeared as anything but a forcible presentment of the leaguer's case to those who have carefully considered the question, notwithstanding the few points made by the lecturer, such as the alleged

statement by Dr. Sheard that he had been vaccinated twenty-six times in one year as a proof of the "value" of vaccination.

The most telling fact was the case of George Webster, an employe of the T. Eaton Company, who had been vaccinated early in February and died on the 19th of the same month from paralysis that supervened. It was also asserted that statistics in England showed one death per fifteen thousand persons vaccinated as a result of the operation.

At the close of the lecture a series of limelight illustrations of the ill-effects of vaccination was given. These appeared to be too much for many of the ladies present, as after two or three had been exhibited there was a steady exodus. The illustrations were certainly effective, and the leaguers may rest assured that by sufficient use of them they will be able to carry out their purpose at an early date, of making vaccination voluntary. The cases shown were appalling, and no one could resist them as an argument against compulsory vaccination.—*Mail and Empire*, 14th March.

#### VACCINATION SAVED THEM.

Apropos of the controversy on vaccination Dr. Richardson sends us the following extract from "The Story of Chisambo," by H. W. Barker :

"In 1901 smallpox raged in many of the native villages, and thousands of the people were carried off. Dr. Massey went to a large village thinking to do some vaccinating, but was informed that there were none to vaccinate, as not one had escaped the plague, and a large number had died. Not far from the Chisambo station there were two villages within a stone's throw of each other; and in one, owing to vaccination, not a case of smallpox appeared, while in the other great numbers died of the disease.

"The natives have great faith in the white man's claim. Mrs. Moffatt, who was at this time in Bailunda (a long way from Chisambo) was attacked but recovered."

Chisambo is a mission station on the West Coast of Africa, at present in charge of Rev. Walter Currie, of Toronto, who is on his way home for a visit.—*Mail and Empire*, 14th March.

#### THE VACCINATION QUESTION.

To the Editor of *The Mail and Empire* :

SIR,—In an evening paper the secretary of the anti-vaccinationists undertook to make several statements as to the high scientific authorities upon which they based their arguments, and to ridicule the comparatively obscure and "pur: local professor," A. B. Macallum, for his temerity in undertaking the defence of the thinking part of the community.

As one who had been engaged in scientific work for some years, the work of Prof. Macallum is personally known to me. In the course of recent investigations I noticed references to his work in German, French, American and English scientific journals. Within the past three weeks Prof. Macallum has been made a Fellow of the Royal Society of Great Britain, which honor is considered to be the highest possible endorsement of scientific standing. Mr. Weir may not consider this to be of any great significance, but to the ordinary receptive individual such recognition was considered to be an honor, not only to the individual, but to the university and community at large.

As to the qualifications of the famous professors mentioned, four in all, I have taken the trouble to investigate, and find some curious facts.

Wallace, made famous by his support of Darwin, the evolutionist, is a faddist of the extreme type, frequently appearing as the champion of some new "anti" society or "ism." For instance, he is a firm believer in the now exploded science of phrenology, is a spiritualist, and has a firm belief that bacteria have souls. He is almost 90 years of age.

Prof. Crookshank was once professor of bacteriology in King's College, London. Not being considered a sound teacher, he yielded up his university position and now lives in retirement. Although his name was up for five years for the degree of F.R.S., recently granted the "obscure" and "puny local professor," it was never given him, and his name was finally struck from the list.

Dr. Creighton never was a professor at Cambridge; he was at one time a demonstrator in anatomy there, and wrote the article on vaccination in the Encyclopædia Britannica, an article which created so much adverse criticism that in the supplement the article had to be refuted. He is now just an ordinary practitioner in the City of London.

Spencer was a theorist; he was familiar with some of the scientific literature of his own country only, and was said not even to read German. To be sure, like many another non-scientific man; he was expert at juggling with scientific facts and statistics in a way that no scientist would dare to do. He was what has been called a pseudo-scientific arm-chair theorizer.

These remarks may perhaps serve to show upon what shifting foundations the anti-vaccinationists have built their extremely fantastical theories. Any normal structure will tumble to the ground when the foundation upon which it is based is knocked from under it. When, however, the scientific authorities upon which anti-vaccination theories have been founded are shown to be air, we have the remarkable phenomenon of seeing the whole superstructure still suspended without support—a mirage, an anomaly, a hallucination.

It gives me considerable pleasure, sir, to rectify the hallucination which Mr. Weir labours under as to the scientific status of his quoted authorities. Thanking you for space in your valuable paper, I remain,

Yours, etc.,

GEORGE G. NASMITH.

Toronto, March 10.

#### CHARGES MADE AGAINST THE ANTI-VACCINATIONISTS.

To the Editor of *The Mail and Empire* :

SIR,—When I criticized the action of the School Board in rescinding the vaccination regulation I pointed out the character of the anti-vaccinationists to whose clamor the School Board yielded, and I stated that they have only one weapon, and that is misrepresentation, the suppression of the truth, and the suggestion of the false. In answer, I am told by Mr. R. S. Weir, the secretary-treasurer of the Anti-Vaccination Society, that I am a comparatively unknown person, that my medical brethren and I are "fellow poisoners," because we believe in vaccination, and that Mr. Levee, who distinguished himself by calling vaccination the introduction of "filthy animal matter," and Mr. Parkinson, who was equally reckless and equally anxious for the applause of the groundlings and the faddists, are good fellows. Mr. Weir, the salaried official of the Anti-Vaccination League, takes the whole board under his protection for doing what he says the members had to do—for votes. An anti-vaccinationist in a letter to the *World*, put the number of those who signed the petition at fewer than a thousand, but Mr. Weir tells us that nearly 5,000 signed the petition, and that the School Board read the barometer!

I am delighted to know that the anti-vaccinationists are to be the defenders of the School Board, but I am doubtful if the members of the School Board regard their position with equanimity. The members of the board were catering for the anti-vaccination vote, and in yielding to the demands of the faddists they betrayed the interests of the City of Toronto. By all means let the members of the School Board have the benefits of the defence put forward in their behalf by the faddists! The sane citizens of Toronto will, soon or late, punish those who betrayed them. We cannot hold the anti-vaccinationists responsible for the result, but we can do so in the case of the School Board when the day of reckoning comes.

I do not purpose to follow Mr. Weir in all his maze of mis-statements and misrepresentations, his dealing in half-truths, but I may show up his references to the Leicester epidemic of 1892-3. In this town of about 190,000 population, vaccination, though supposedly compulsory, as

throughout Great Britain, was not enforced, although at least half of the people were vaccinated. This is, of course, disputed by the anti-vaccinationists, but the nearest computation puts the proportion at as high a point. Of those less than ten years of age who were attacked only two were vaccinated, while 49 were unvaccinated. Of those more than that age, 176 were vaccinated, but, in nearly every case, in early childhood. There were altogether 153 unvaccinated cases. M. Weir asks what is the use of vaccination in consequence? Does anybody maintain that one vaccination away back in childhood is sufficient to protect the adult from attack? No sane and honest person who knows anything of the subject of vaccination has ever pretended that one vaccination will confer immunity from attack for a period longer than ten years, although it does lessen the risk of death after that date. That was seen in the Leicester epidemic. The mortality among the unvaccinated was 12.3 per cent., while amongst the vaccinated it was only 0.8 per cent.

Place that beside the fact that of the children under ten who were attacked 96.1 per cent. were unvaccinated, and you have a striking testimony to the value of vaccination, even in a case which Mr. Weir regards as a clear demonstration of his view.

I am, however, not going to discuss Mr. Weir's letter further. I wish to appeal to the citizens of Toronto who are open to conviction, and who may yet find it necessary at a great cost to undo the action of the School Board. I may point out here very striking evidence of the value of vaccination. Perhaps, of all countries, Germany is the one in which vaccination is thoroughly enforced. Shortly after Jenner's views became known the Prussian Government began the crusade in favor of vaccination. The mortality from smallpox in Prussia before 1800 had been about 4,000 per million of inhabitants. Vaccination began in 1801, and in consequence the mortality fell to 62 in the years 1802-1811, and to 20 in 1812-1816. In the latter year vaccination of infants became compulsory, and in the five following years the mortality fell to five per million of inhabitants. Throughout Germany a similar result was found, but, of course, under different regulations. In 1874, four years after the formation of the present German Empire, the Imperial Vaccination Law was decreed. Every child was to be vaccinated in its first year, and again at 12 years of age, and in consequence of the enforcement of this law the mortality fell still lower. In each year from 1885 to 1895 it was only 2.34 in a million, in 1896 0.19, in 1897 0.09, and in 1898 0.28 per million living. The total number of deaths from smallpox was, for the three years 1896, 1897 and 1898, only 30! In the report of the German Imperial Health Office, published in 1896, which deals with all these facts, the statistics of the German army are given, and particularly

of the epidemic of 1870-5, which spread through Europe from France, where vaccination, although compulsory, was not enforced, as it is not enforced in England to-day. The French army lost 23,000 men from smallpox, and the rest of the nation about 67,000. The German army lost only 287! Every German soldier had been vaccinated twice, while not more than half of the French army was vaccinated once.

While the mortality from smallpox in Germany for the three years 1896-8 was only 30, that for London alone for the same time was 216, and all due to the anti-vaccination craze. Any ordinary unvaccinated town in England may have at any one time, as Gloucester did in 1896, more deaths from smallpox than the whole German Empire has now in ten years.

One could go on giving other statistics proving the value of vaccination as a safeguard against smallpox, but I wish only to add here a few words regarding the claim that better sanitation is the cause of the fall of mortality of smallpox in England from more than 4,000 per million living at the beginning of the last century to less than 40 per million living at the close. Mr. Alfred Russell Wallace says this fall is due to better sanitation, but the Registrar-General of Great Britain has completely disproved his statement. Here are the figures:—

	Deaths per million from all causes.	Smallpox.
1771-1780.....	50,000	5,020
1801-1810.....	29,000	2,040
1831-1835.....	32,000	830
1838-1853.....	24,900	513
1854-1871.....	24,200	388
1872-1882.....	22,100	262

Here the mortality from smallpox, as compared with the deaths from all causes, was reduced in the various periods as follows:—1-15, 1-40, 1-50, 1-60, and 1-85. This is conclusive in its refutation of Dr. Wallace's contention. The mortality from smallpox in England will never be as low as in Germany, for in England the noisy anti-vaccinationists are ever active in paralyzing further progress.

We are told with a great flourish that the anti-vaccinationists have the authority of great names on their side: Wallace, Crookshank, Creighton and Spencer. Lister, Pasteur, Koch, Behring, and a host of others, whose discoveries have revolutionized our knowledge of disease, and to whose efforts is due an incalculable diminution in human suffering, count as nothing against them, of course. We are asked also to discard the firmly-founded conclusions of science in favor of the prejudiced conceptions of Wallace, who believes in phrenology, spiritualism,

and a number of other "isms." Not one of the three protagonists of anti-vaccination, Wallace, Spencer and Creighton, had ever dealt at first hand with a problem within the range of practical medical science, and yet their views regarding vaccination are regarded as sacred by the rank and file of the faddists. According to these all the rest of the world is wrong in its conclusions, the carefully thought-out generalizations of scientific men who have beyond all telling alleviated suffering humanity are as nothing to the members of a School Board who are looking for anti-vaccinationists' votes.

Again, I may ask the business people and other sane citizens of Toronto what effect would 300 cases of smallpox, because of lack of vaccination four or five years from now, have on the business of Toronto and on the higher educational institutions of the city? Are not the members of the School Board already responsible for what will certainly happen if vaccination in the schools continues to be uninforced?

Yours, etc.,

A. B. MACALLUM.

Toronto, March 9th.

#### PLEA IN FAVOR OF VACCINATION.

To the Editor of *The Mail and Empire* :

SIR,—The Board of Education of the City of Toronto, by its recent action in deciding to abolish the rule compelling evidence of successful vaccination before children can be admitted to school, has occasioned considerable surprise to those citizens who look to the School Board to support and lead in all matters of an educational character. Their attitude in this matter is the more open to criticism because they give as their only reason that a petition signed by over one thousand people made such request. Many of these were doubtless individuals who were not in the slightest degree capable of forming any conclusions regarding vaccination, pro or con., and the anti-vaccinationists are claiming no small degree of credit for converting people to their pet fad in consequence of the School Board's action.

Every medical man knows that for years past there has been an organized body known as the Anti-Vaccination League, whose business has been that of preparing literature and pamphleteering against vaccination. These publications abound in alarming, untruthful statements, adroitly prepared for the ignorant and ill-informed; and framed with the express purpose of sapping the results of evidence and faith in well-established, tried and proven methods. Such statements are often of the wildest character; for instance, when the claim is made that such diseases as cancer, consumption, chronic skin diseases, blood poisoning,

and gangrene are common occurrences, and distinctly traceable to vaccination.

They submit evidence long since refuted by the Royal Commission on Vaccination, and reprint it with all the force and reiteration of established fact, knowing that it has been disproved. The statement contained on page 239 in their pamphlet, "Vaccination a Delusion," published by the Anti-Vaccination League, is a fair example. It is there stated :—

"Several other cases were detected at Sheffield and were adduced by Mr. A. Wheeler in his evidence before the commission (6th report, p. 70), and many others are to be found throughout the antivaccination periodicals. But the difficulty of tracing such mis-statements is very great, as the authorities almost always refuse to give information as to the cases referred to when particular deaths from smallpox are recorded as 'unvaccinated.' Why this effort at secrecy in such a matter if there is nothing to hide?"

The facts regarding all these details are fully set forth in the report of Dr. F. W. Barry, of Sheffield, who was appointed by the Local Government Board to conduct an exhaustive investigation into the whole matter, and which report stands forth a monumental testimony to the value of vaccination. The report was further submitted to Sir George Buchanan for criticism and analysis, who reports thereon as follows :—

"First, of the children under ten years of age living in Sheffield during 1887-8 under the common conditions of infection in the whole borough :

"Per thousand of the number of children in each class—	
The attack rate of the vaccinated was.....	5
The attack rate of the unvaccinated was.....	101
The death rate of the vaccinated was.....	0.09
The death rate of the unvaccinated was.....	4c

"Under the general circumstances of the Sheffield epidemic, therefore the vaccinated children had, as compared with the unvaccinated children living in the town, a twenty-fold immunity from attack by smallpox."

Despite all the doubts which Dr. Alfred Russell Wallace has tried to throw into the minds of the people in Sheffield, let us read what Dr. John Robertson, Health Officer of the City of Sheffield, has to say upon the matter in his published report for 1903, page 26 :—

#### VACCINATION AND SMALLPOX.

"It is desirable when dealing with this subject to call attention to the fact that all our trouble and anxiety should not have been necessary



had efficient protection been obtained by vaccination. Those who neglect to keep themselves in a condition of immunity from smallpox cause a great and needless expense and anxiety to the large population who are properly protected. If every person kept himself in the condition which the nurses at the hospital and the Health Department staff must do there would be no smallpox, no hospital and other expenses. In this respect, attention has been recently drawn to the custom in Germany of nursing cases of imported smallpox in the general hospital, where all the patients are so well protected by vaccination that special hospitals are unnecessary."

Such statements as the above, showing the results ten years afterwards, and the report of Dr. Barry and Sir George Buchannan's masterly analysis, could have no weight with the School Board when compared with the graphic and melodramatic appeal, as set forth in the following terms, from the "Self-Protection Pamphlet" of Alfred Russell Wallace, published and distributed under the auspices of the league, when he states in the preface and opening chapters: "I appeal from the medical and official apologists of vaccination to the intelligence and common sense of my fellow-countrymen," and he forthwith proceeds to appeal in this opening stanza:—

"To-day, in all its dimpled bloom,  
The rosy darling crows with glee;  
To-morrow, in a darkened room,  
A palid, wailing infant see,  
Whose every vein from head to heel  
Ferments with poison from my steel."

After this what is there left to say? Such an array of facts and irrefutable arguments appear to have been quite convincing for the Board of Education of the City of Toronto.

For my own part I wish, however, to place on record the fact that I have steadily and persistently vaccinated the public in the city of Toronto for thirteen years; that a very conservative estimate would be 3,000 vaccinations per annum, which would constitute a grand total of upwards of 39,000 vaccinations, done directly under the supervision and authority of the Health Department of this city; that if such glaring maladies, ordinarily or even exceptionally, occurred as the anti-vaccinationists seek to make out, I must have had a very large number of such cases brought to my notice. Instead, however, beyond a few moderately sore arms, readily getting well with a few days' simple common sense care, I am not aware that a single case of permanent disability or disease has ever occurred, and I challenge all the anti-vaccinationists in the country to prove the contrary. Further than this, I would say that I have had many nurses and employes who have been vaccinated and re-vaccin-

ated by me, who have lived amongst smallpox, and who have enjoyed perfect health, free from disease of any character.

Within the last five years there have been in Toronto 135 cases of smallpox, with 22 new introductions. Only last month a young lady affected with smallpox travelled up and down on the street cars of this city while suffering from the disease. As the spots were becoming very angry, she concluded that she would take a car and consult her physician, who, upon seeing her, notified me that he suspected the disease to be smallpox, and as a result the girl is now under my care.

Shortly before Christmas, 1905, the western portion of this city was considerably agitated because a young man at the Jameson Avenue Collegiate Institute had attended there whilst suffering from smallpox and had passed through all the stages of the disease, and at the same time mingling with the pupils of the institution without interference. It was feared a serious outbreak could not possibly be averted, yet the disease did not spread to any extent.

These are two instances which I claim fairly well illustrate that, for some reason or other, the people of the city of Toronto are not to any great degree at present vulnerable to the infection of smallpox. I claim the reason is to be found in the thirteen years of quiet, persistent vaccination that has been conducted by the Health Department and Physicians of this city. I claim the citizens of Toronto are those of this province at present best protected by vaccination, and I justify that claim by the statistics compiled from the reports of the various portions of the province to the Provincial Board of Health. In the year 1905, just concluded, 56 cases of smallpox occurred, and were treated in the Smallpox Hospital of this city. Among those cases only two were vaccinated. The statistics for the city of Montreal show that in 1902 there were 361 patients cared for and treated in the Smallpox Hospital. Of these 322 had never been vaccinated, and of the rest only three showed any vaccination marks.

In the recent outbreak in the western portion of this city a nursing child was found to be suffering from a moderately severe smallpox eruption, on account of which it became necessary to remove the infant, with its mother, to the Smallpox Hospital. I strongly advised this unaffected lady to be vaccinated. She demurred slightly, as she had been frightened by the anti-vaccination pamphleteers, but consented to my vaccinating her, which I did on two different occasions, with the result that she nursed her child and lived amongst smallpox patients for five weeks without contracting the disease. On the same street I removed another child suffering from the same disease. Subsequently, in the house the mother of the nursing infant showed evidence of the smallpox. This lady had not been recently vaccinated. I urged the immediate vaccination of her

nursing babe and the removal of the mother and child to the Smallpox Hospital, which was done, and, although the vaccinated nursing child nursed from its mother throughout the disease, with the exception of a couple of days, when the fever was at its height, and lived in the Smallpox Hospital with smallpox patients for five weeks, till the mother was convalescent, it showed not the slightest degree of ill health, and to-day is a ruddy, chubby, rosy monument to the protecting influence of vaccination.

Prof. Osler, in speaking of the disease, says :

“Perhaps the most remarkable instance in modern times of the rapid extension of smallpox occurred in Montreal in 1885. For some years previous vaccination had been neglected in the city, as many of the French-Canadians are opposed to it, consequently a large unprotected population grew up in the city. On Feb. 28, 1885, a Pullman car conductor, who had travelled from Chicago, where the disease had been slightly prevalent, was admitted into the Hotel Dieu, the civic smallpox hospital being at that time closed. Isolation was not carried out, and on April 1 a servant in the hospital died of smallpox. Following her decease, with a negligence absolutely criminal, the authorities of the hospital dismissed all the patients not showing any symptoms of the disease. The disease spread like fire in dry grass, and within nine months there died in the city, of smallpox, 3,164 persons.”

The trade and commerce of Montreal was ruined for a decade, and the city was ostracized, because of the neglect of the protection which vaccination afforded.

I challenge the whole brood of anti-vaccinationists, either in the city of Toronto or in any centre in the world, to submit the evidence of any man of respectable standing or of scientific attainments, whose personal experience and knowledge is contrary to mine. I submit in this connection the following extract, given on page 31 of the report of the Public Health Committee of the London County Council and for the city of London, England, for the year 1902 :—

“(d) Vaccination or re-vaccination of persons exposed to smallpox infection.—The accumulation of a large number of unvaccinated children in London rendered of especial importance during the recent epidemic the promptitude with which vaccination was offered to the inmates of invaded houses and the willingness of the inmates to accept the services of the vaccinator. The reports of a few medical officers of health tell of the actual results obtained under the circumstances which existed. Thus, Dr. Davies gives account of 1,673 persons known to have been exposed to infection of smallpox in Woolwich. Of these 1,171 were vaccinated within three days of exposure to infection, or had been vaccinated in the previous ten years, and only one of these persons contract-

ed smallpox. 420 'contacts' refused vaccination or were otherwise unprotected by vaccination in the ten days before, or within three days after exposure to infection, and 45 of these persons contracted smallpox; eight contacts had never been vaccinated before exposure to infection, and not vaccinated within three days of exposure, and of these two were attacked."

I further submit the statement of Henry D. Littlejohn, M. D., Medical Officer of Health of the city of Edinburgh, who, in dealing with the smallpox epidemic of that city of the year 1901, says, page 5:—

"Such my Lord, has been the conduct pursued by your Medical Officer of Health with regard to the existing epidemic, but I cannot close this short statement without impressing upon your Lordship and council that this and other large towns will be subject from time to time to invasions of smallpox unless the compulsory provisions of a Vaccination Act be extended to Scotland.

"If the poor do not look after their own interest with regard to such a disease, ultimately they and all classes of society suffer in consequence. It is the duty of the public to take all possible measures for self-protection, and in the present case the remedy is so easy and efficacious that every one who neglects to avail himself of it is chargeable with gross carelessness, and might justly be subjected to legal enactments."

Yet, while this testimony could be multiplied by the volume, if one had the time and patience, the anti-vaccinationists are circulating among the people of this city the report that vaccination is admitted by even reliable medical authority to be of no protection and a fake; that it is even performed by medical men simply for the purpose of increasing their professional revenues, and is a worn-out, exploded delusion, menaced with dangers.

The above gentlemen whose opinions I have quoted, are the paid officials of leading cities, sworn to faithfully employ every proper method and use every effort to protect the health of the community of which they are in charge. Are they falsifiers of the truth or are they not competent to judge between cause and effect?

The iniquity is in the fact that body controlling the High schools and Public schools of our city, and having charge to that extent of its educational interests, should show no better judgment than to thus cast aside all evidence and authority.

Yours, etc.,

CHAS. SHEARD, M. D.,

Medical Health Officer.

## THE VACCINATION ISSUE.

To the Editor of *The Globe* :

When it was announced that in response to the request of some 5,000 citizens the school board had rescinded the by-law providing for compulsory vaccination, the names of some few of the petitioners were given. I find mine among them. The letters from the faculty commenting upon the action of the board and the mental and moral calibre of the petitioners are public property. Though it is not a pleasant thing to have one's good faith or sanity pilloried in the public press, there are other considerations, far outweighing the mere personal affront, which prompt a reply.

Here are 5,000 citizens, among them a dozen medical men, almost as many clergymen, and scores of intelligent citizens in all walks of life, who refuse to submit their bodies, or the bodies of their children, to what they consider an empirical surgical operation.

On the other hand, we have "constituted authority" sweeping aside their protest, denouncing them as imbeciles, and predicting dire calamity as the result of their action. And, true to the statistical idea, even the calamity is measured in dollars and cents. "Business will suffer." The case for the profession may be stated in popular phrase, thus: "Figures cannot lie," "Money will talk."

The medical authorities base their arguments solely upon statistical evidence, which is valuable only as it is used honestly, intelligently, and with due regard to all other related facts. Conclusions drawn from statistical evidence are notoriously faulty. Why? Either some related facts necessary to a correct conclusion have escaped notice (they are sometimes wilfully concealed) or the facts in evidence are not considered with proper regard for the relations they bear to each other. Every man of affairs is well aware of this.

The advocates of vaccination persist in the unscientific method of reasoning from partial facts—and they question the intelligence or honesty of those who would supply the deficiency.

They have all the statistics and some of the facts necessary to a correct conclusion. The people at large have the other facts, in relation to which there are no statistics.

What are these other facts? Pre-eminently, among others, are the many cases of serious, and sometimes fatal, injury following the operation.

These facts are officially denied. And the fact that one healthy man may submit himself to twenty successive operations without injury is put forward in refutation. But it will scarcely satisfy the mother who mourns the loss of a child. Nor will it commend itself to thinking people.

It is fitting, however, that official denial be met by official corroboration. I omit names. But the document I shall refer to is public property. It is the report of the seventeenth annual meeting of the Executive Health Officers of Ontario. Space will not permit a full quotation, but the document in full is, of course, open for inspection:—

“ I have heard Dr. ——— say that Palmerston vaccine is a very good, satisfactory vaccine, but satisfactory vaccine sometimes produces pretty sore arms. The question of bovine vaccination opens up so many points for discussion that a man is tempted to go back to the practice of the first days and use humanized lymph. With bovine vaccination I have seen some of the vilest sore arms.

“ We have been using bovine lymph, but to say that everything is satisfactory, even omitting tetanus, is something I am not prepared to endorse. I have seen these cases of post-vaccinal ulcer, and have been obliged to treat them, boys, otherwise healthy boys, sons of good sound parents, with arms sore, for three consecutive months. I say the present conditions are not completely satisfactory. We have had the strong evidence of McFarlane, of Philadelphia, evidence not yet controverted, that 63 cases of tetanus (lockjaw) resulted from the use of bovine virus in cities such as Philadelphia, Camden, N.J., and the immediate neighborhood. Well, that is not an agreeable picture to contemplate.

“ If we cannot have bovine virus we can depend upon, what is the position of the doctor? A most unhappy one. If you were asked: ‘ Will you guarantee that the child will not take tetanus from that vaccine,’ would you accept the challenge? If you do not accept the challenge, what right have you to insist upon vaccination-”

Comment is unnecessary. I repeat, the people are aware of these facts, and the widespread antipathy to vaccination is accounted for on a much saner hypothesis than that of ignorant prejudice.

There is undoubtedly, to put it mildly, an element of doubt and uncertainty even in the profession about the whole question.

Is it sane, is it honest, is it human, to persist in a policy of force under such conditions?

Those who reject the vaccination theory are invited to expose themselves to infection in the smallpox hospitals in vindication of what the worthy doctor assumes to be their faith. One's sense of humor suggests that possibly it might be a difficult matter to induce six ordinary, sane citizens, vaccinated or otherwise, to submit themselves to such a test.

Rejection of vaccination does not imply rejection of belief in the contagious character of smallpox.

A far better test of the faith of anti-vaccinationists is afforded in the following case, which I can personally vouch for.

A family of eight persons, the youngest 17, the eldest 50, were exposed to smallpox infection by the development of the disease in a visiting friend. All had been vaccinated in infancy.

According to the latest theory that vaccination loses its potency in three, seven, ten years (whichever it is), they were unvaccinated.

The patient was removed, the family quarantined. The medical officer emphatically insisted upon immediate vaccination, declaring that they could not possibly escape infection. The reply was, "We do not fear the disease, we refuse to submit to vaccination."

The quarantine was duly removed at the expiration of the regular period, and they went forth as usual, none the worse for their enforced holiday.

I have chosen to deal with the statistical method, rather than with statistics themselves.

But the quality of statistics, as in other things, depends upon the makers, and makers of statistics are human, and liable to err.

The statistic which has been used with most telling effect in favor of vaccination is that relating to the mortality in the French army during the Franco-German war.

The statement is to the effect that during the Franco-Prussian war 23,469 died from smallpox in the French army, whereas the German army lost only 263, the difference being attributed to want of re-vaccination in the French army.

The following letter in the *London Lancet*, of June 8, 1901, is clear evidence of error in this statement:—

To the Editors of *The Lancet* (London):

SIRS,—Surely a journal with the reputation of *The Lancet* owes some explanation to its readers for reproducing in the annotation or aseptic vaccination the often exposed fable regarding smallpox mortality in the French and German armies. This statement was withdrawn by Dr. W. B. Carpenter, who originally promulgated it in this country. Its falsity was admitted by Lord Herschell's commission, but the marvellous comparison keeps "popping up" again, as the old lady said of Mr. Gladstone. In 1899 Mr. Rider Haggard used it in a little lecture to a conscientious objector, and afterwards withdrew it. The Jenner Society obtained through the Foreign Office an official statement from the French authorities on this subject. In this the estimate that 23,400 soldiers had died from smallpox was stated (as a little reflection would lead one to expect) to be "greatly in excess of the reality," so greatly that the 23,400 was brought down "not to exceed 6,000." An estimate worth little at best, has thus suffered an official abatement of nearly

75 per cent. But the story on the authority of your review is still doing service in the newest pro-vaccination literature, and *The Lancet* has unaccountably given the lie one more start in this country. I am, sirs, yours faithfully,

(Signed) ALEX. PAUL.

On this letter the editor of *The Lancet* comments as follows:—

The figures escaped our attention. We regret to have published them, as their falsity has been established.

Editor of *The Lancet*.

There need be no implication of unfairness, nor any reflection upon the scholarship of the gentlemen who are using this erroneous statistic to-day.

Where is the man in any sphere who is not liable to similar error?

How much wiser would we be "if we didn't know so many things that ain't so."

JULIAN SALE.

Toronto, March 21.

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The official returns of the two armies show that the active German army lost by deaths from smallpox 297 men, while the active French army lost by deaths from smallpox 23,465, during the Franco-Prussian war. Allowing Mr. Sale's contention it would be 263 to 6,000. As to the cases of lockjaw at Camden, N.J., and other places, it has been shown that there was a prevalence of this disease in these localities. The vaccine was proven to be free from the infection. Other wounds became infected with the tetanus germ as well as the vaccination sores.

--Ed. *Can. Lancet*.

#### BUSINESS MAN VS. ANTI-VACCINATIONIST.

To the Editor of *The Globe*:

The life insurance man Greene's work, "The Medical Examination for Life Insurance," is one of highest authority. On page 123 of the 1905 edition we read:—

"Vaccination—Have you been vaccinated? Do you find scars attesting a successful vaccination? Many insurance companies will not insure an unvaccinated person unless he signs a clause releasing the company from all liability in event of his death from smallpox."

What is the significance of this? Which are the solid men of Toronto and Ontario going to trust—men who for practical objects have made it their business to understand the probabilities for life and death in connection with vaccination and other influences, or the amateur



agitators of the nonce? Has the experience of Montreal, within our own generation, no lesson for Toronto? Not to speak of Gloucester and other places not so near home.

The term, "the evils of vaccination," has been made to cover a few cases out of the millions of vaccinations, where some carelessness or some coincidence has followed vaccination with untoward results. I might, with far more propriety, descant upon "the evils of fishing," or "the evils of skating," because I have heard of some deaths from fish-hook and skate wounds, and have treated some bad ones, and I have never seen a death from vaccination; but I have personal knowledge of cases of death from smallpox. I trust that the importance and value of personal experience may excuse personal reference. I was for a time, in my earlier years, one of the public vaccinators for Toronto, besides having at that time a large practice among children; and out of thousands of vaccinations I have not known of more than one case of a "bad arm"; of several children in the same family, all ran the ordinary course except one boy, in whom the vaccine pits were deep and took about four weeks to heal; if he had been exposed to smallpox, he would not have been that long ill, for he would have died in much less time, with a constitution such as his.

The statistics proving the saving of lives by vaccination are overwhelmingly convincing to persons who are willing to examine them throughout and who are not too vain to lay aside preconceived fads derived from the "little knowledge" which leads them to think they know it all? Such persons can obtain these from the report of the Royal Commission and from such sources as the various works in hygiene—Parkes and Kenwood, Harrington, Egbert, Stevenson and Murphy, from Allbutt's System of Medicine, etc. They are numerous, and I will only ask your space for one or two.

In Gloucester "improved sanitation" did not save a people who allowed vaccination to fall into disuse, and for which reason 450 people died and 1,600 were left with pitted faces. Gloucester then started vigorous vaccination. Is Toronto going to try a similar experiment?

Again, to compare vaccinated and unvaccinated side by side, with all sanitary surroundings the same:—

In Dewsbury 10.2 per cent. of vaccinated and 50.8 per cent. of unvaccinated were attacked.

In Leicester 2.5 per cent. of vaccinated and 35 per cent. of unvaccinated were attacked.

In Gloucester 8.8 per cent. of vaccinated and 46.3 per cent. of unvaccinated were attacked.

The death rates per thousand persons in Sheffield in 1887-8 were: Persons twice vaccinated, .08; once vaccinated, 1; not vaccinated, 51.

Similar results have been repeatedly noted in our own Province. The epidemic in Galt three years ago is so completely over with that a reference will not offend. There were 30 cases in Galt. Of these 17 were never vaccinated, 8 were vaccinated a few days after exposure, 4 were vaccinated in infancy, 1 was vaccinated in infancy (no scar). At the same time there were four households with from four to nine inmates in each, in which all who were unvaccinated took the disease and none of those who had been vaccinated.

Perhaps, however, a reference to school statistics and the police force will appeal more to our Board of Education and civic authorities. In a pamphlet just received from Dr. Heman Spalding, Chief Medical Inspector of Chicago, he says:—

This is the protection given the 3,200 policemen of Chicago, who, next to the employees in the health department, are the most exposed to smallpox of any class in the city. No case of smallpox has occurred among the policemen of Chicago in the ten years I have been in the health department. Vaccination on entering the school, and again seven years later, is the protection given the 265,000 school children of Chicago, and in ten years but seven cases of smallpox have occurred among the school children, and all of these children were in school with a false certificate of vaccination. In one instance last year a child in school with a false certificate attended school two weeks while he had a mild form of smallpox, and but one child in the school took the disease, and this child was also in school with a false certificate of vaccination. No vaccinated school child in the Chicago school has had smallpox during the last ten years, though Chicago suffered a severe epidemic of smallpox in 1894 and 1895, and has had a mild, almost continuous, epidemic of the disease for the past three years. During the last two years more than 600 medical students have been permitted to enter the Chicago Isolation Hospital for the purpose of studying smallpox at the bedside, where they were thoroughly exposed to the disease in all forms and stages. Not one of these students contracted the disease. Before permitted to enter the hospital, each student was required to have a vaccination, and if the vaccination was more than a few months old, three re-vaccinations.”

Chicago is a city of commercial instincts, and not likely to be misled by empty theories on the one hand, nor by sentimental exaggerations on the other. The mildness of the form of smallpox we have had has caused some apathy, but the experience of Cleveland, O., and of Shaniko, Ore., should be warnings of the possibility of a change from mildness to virulence.

W. OLDRIGHT.

Toronto, March 23.

## VACCINATION.

Dr. Sheard is not disposed to be silent about the action of the Board of Education in rescinding the rule that no unvaccinated child shall be admitted to the schools. Charged as he is with the supervision of the public health, he is thoroughly justified in protesting against anything which in his opinion tends to endanger it. It must be said that the sudden and almost unanimous resolution of the Board of Education to abandon a rule in force for many years took many people by surprise. It would have been thought that such a departure would not be taken without long and serious debate; that there would at least be great differences of opinion with respect to it, and that these debates and doubts would be reflected among the constituents of the board.

Not so, however. In a single night, with little or no discussion, and with only one dissenting voice, the rule was rescinded. The episode bears all the marks of being brought about by a small but energetic lobby. The board was evidently persuaded that this small body of opinion was very much in earnest, while the great sea of opinion that would be disposed to challenge their action lacks incitement to protest. Smallpox has ceased to be the name of terror that it once was. This generation knows so little about it that they have forgotten to what they owe their immunity from its ravages. Its loathsomeness, its mortality, and its power to render hideous even those whose lives it spared, have ceased to be familiar to us. But anyone who will without prejudice examine the facts cannot come to any other conclusion than that the action of the Board of Education has removed one of the great means by which humanity is saved from such periods of woe as were common until vaccination became general among civilized nations. Almost the only surety we had that each person would at least be vaccinated once during his or her life was the rule that made it imperative before entering school. If this leads to a general relaxation of the practice not many years will elapse before the community will be ripe for an epidemic, not so virulent and murderous perhaps as those with which our forefathers were familiar, because their knowledge of isolation, etc., was less than ours, but quite serious enough to make the School Board of 1906 and the perverted people by whom they were advised a body of unhappy memory.

How many of the members of the board have really studied the subject more than to listen to the one-sided and quite unconvincing arguments of the lobbying anti-vaccinationists. How many of them have read the report of the British Royal Commission on the subject, or the mass of irresistible evidence printed in book form by the British Medical Association in 1902? Almost the only rational objection put forward in opposition is that vaccination itself is attended with dangers and has a certain mortality to its own account. It must be admitted that the prac-

ice of vaccination has been attended in the past with a good deal of carelessness, both on the part of the operator and the part of the patient. The custom of vaccinating one patient from the arm of another was highly objectionable. This is, so far as we are informed, never done now. The use of glycerinated lymph, with reasonable care of the wound on the part of the patient, makes the possibility of evil results very remote indeed. Of course, it is impossible to remove all possibility of danger from anything resembling a surgical operation. A man may die from barking his shin on a chair. But are we to run the risk of a smallpox epidemic because of infinitesimally remote dangers of this kind?

The subject is not academic. It is vitally important not only to the health of the city, but also to its commercial and industrial interests. An epidemic of smallpox in this city would cost us millions of dollars and losses from which the city would not recover in years. No such epidemic is likely, it is true, at once, but that it is possible a few years hence if parents largely avail themselves of the criminal good-nature of the Board of Education cannot be denied. In the days before vaccination children were the chief victims of smallpox. All that is needed is a sufficiently large number of unvaccinated children to afford a seed-bed for the implantation of a disastrous crop. It is something of which the leaders of trade should take notice. Let us not wait until it is too late to be sorry. For vagaries of opinion large-minded people have a wide charity, but not when, as in the case of the anti-vaccinationists, the result might be death and disaster to the community.—Editorial, *Globe*, 19th March.

#### RESOLUTIONS OF THE TORONTO CLINICAL AND MEDICAL SOCIETIES.

The Toronto Clinical Society, one of the leading societies of Ontario, and consisting of ninety of the leading physicians and surgeons of Toronto, at their last regular meeting on March 7th passed the following resolutions:—

That the Toronto Clinical Society express hereby the strongest disapproval of the recent action of the Board of Education of the city of Toronto in permitting the attendance at School of unvaccinated children. Among other reasons their disapproval is based upon the following facts:—

(a) That vaccination protects both the individual and the community from the ravages of smallpox and cannot safely be replaced by isolation or any other preventive measure.

(b) That vaccination, at least under modern conditions, cannot possibly do the individual the least harm, and has never under any conditions nor at any time been responsible for a fraction of the charges brought against it by ignorant and irresponsible or designing agitators.

(c) That the action of the Board is a serious menace to the well-being of the community as giving support and color to the clamour of those who are trying to spread alarm among the masses by circulating false statements as to the alleged inefficiency and dangers of vaccination.

(d) That this society hereby respectfully urge upon the government the necessity of legislation which will take the matter out of the hand of the local authorities so far as the regulation of vaccination is concerned, and apply the same rules to all parts of the Province.

(e) That a copy of these resolutions be sent to the Provincial Board of Health for the Provincial Secretary, to the Board of Education, to the City Council, and to the press.

The foregoing resolutions were read at the meeting of the Toronto Medical Society, held on 15th. March the oldest and largest medical society in the city, and were unanimously endorsed, and the opinion also expressed was that a commission be appointed with power to take evidence under oath and to compel attendance before such commission with the view of effectually refuting the inflammatory and misleading statements that are continually being made by anti-vaccinationists.

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#### EVILS OF VACCINATION.

Mr. R. S. Weir, Sec.-Treas. of the Anti-Vaccination League, writing to *The Globe*, of 31st March, on the evil results of vaccination, among other things remarks thus: "There probably is not a mother in Toronto whose personal experience or that of her lady friends does not bear testimony to this fact. Spectre-like, this dread follows the trail of vaccination, and will not down. If the truth were known the deaths, not to speak of the other troubles, caused by vaccination, would be seen to far exceed those charged to smallpox."

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#### A PERSONAL EXPERIENCE.

Mr. Cross, surgeon, writing, in 1820, of the epidemic of smallpox which visited Norwich in 1819, says:

"I advocate vaccination because I believe it to be the most powerful means of preventing the misery attendant on disease, and saving human life, which Providence has vouchsafed to put into the hands of man; my time has been given up to the gratuitous practice of it, because I can thus do most good, and I regard every drop of the vaccine ichor as the most active material that can be admitted into the list of our prophylactic remedies. I am, therefore, grateful to the philosopher who has taught us to wield this weapon of defence in overcoming *the worst of human maladies.*"

(An experience such as this is worth more than all the statements of the anti-vaccinationists put together.—Ed. *Can Lancet.*)

## QUEBEC MEDICAL NEWS

Conducted by MALCOLM MacKAY, B.A., M.D., Windsor Mills, Que.

Dr. Roddick, President of the Board of Governors of the Alexandra Hospital, presented a report upon the progress of the building before a meeting of subscribers held in the Fraser Institute. He stated that the site once thought objectionable had proved to be almost ideal, that the building was nearing completion, and that a medical board had been selected. This board, having the functions chiefly of a consulting board, is composed of three members of the attending staff, respectively of the Montreal General and Royal Victoria Hospitals, and two from the Western Hospital. A competent resident medical officer, Dr. J. C. Fyshe, has also been selected, and is at present doing special work under McCallum in Boston on infectious diseases. Dr. Fyshe is a graduate of McGill University and was one of the resident physicians of the Montreal General Hospital for two years. Miss Motgomery, late of the Civic Hospital, has been appointed lady superintendent.

The total amount subscribed up to the present is \$149,637 and at least \$12,000 more has been promised. As the estimated cost is about \$250,000 the sum of \$100,000 is required for the completion of the work. The agreement with the city is that for 25 years the city is to pay the hospital \$15,000 per year, together with one dollar a day for all patients above the number of twenty each day. The hospital furnishes the ambulance and the city disinfects the houses.

Dr. Laberge, Medical Health Officer of Montreal, has submitted a scheme to the Health Committee involving some original features. It provides for the establishment of a permanent exhibition of sanitary appliances, fittings, and other articles in connection with the civic service. By this means Dr. Laberge thinks that the general public, who have only a limited knowledge of the advantages to be derived from modern sanitation, can be given a useful object lesson which will teach them what to demand from their landlords, and also enable them to get what they want when obtaining plumbers' supplies of any kind for domestic purposes. He also suggests that the exhibition could be used for the examination of sanitary engineers to be employed by the city, which at the present time has to be conducted in the basement of the City Hall. The cost, he says, would be very small, as manufacturers of sanitary goods would be only too glad to give their samples free on account of the advertisement they would obtain. He further thinks the exhibition might include analyses of food products and patent foods.

An application has been made to the Finance Committee of Montreal on behalf of the Anti-Tuberculosis League by Drs. Dagenais, La-

chappelle, and Harding, for an increase in the civic grant from \$1,000 to \$2,000 in order to push forward the establishment of the open-air camp on Shakespeare farm. Dr. Harding pointed out that the league had made investigations and found that out of 700 deaths from tuberculosis last year 235 were workingmen. This, he said, represented a loss in wages to their families of over two hundred and thirty thousand dollars. The chairman assured the delegation that the \$1,000 voted last year would again be forthcoming, and that if the committee could see its way to increase the grant it would do so.

At the Montreal Medico-Chirurgical Society the following papers were read:—

Cholelithiasis, with Fat Necrosis. Dr. Hutchison.

Ulceration of Cornea from Diplo-Bacillus of Morax Axenfelt. Dr. McKee.

Pancreatitis, from a Surgical Point of View, with reports of some cases. Dr. Elder.

General Peritonitis following Mesenteric Emboli. Dr. Garrow.

Appendicitis Simulating Tubal Pregnancy. Dr. Smith.

Splenectomy. Dr. Garrow.

Ruptured Aortic Aneurism with Pathological Specimen. Drs. Cameron and Gillies.

Osteomyelitis, with special reference to treatment. Dr. Garrow.

Subacute Blepharo-Conjunctivitis. Dr. Tooke.

Hysterical Swelling of Hand. Dr. Gordon.

Dr. I. L. Todd, formerly of the Royal Victoria Hospital and now of the Liverpool School of Topical Medicine, gave a lecture on "Two Years' Travel and Medical Research on the Congo." This lecture was illustrated by lantern slides.

At the District of St. Francis Medical Society papers were read by Drs. Camirand and Mackay. Dr. Camirand took Scopolamine Anæsthesia as his subject, and illustrated his remarks by cases undergoing operation at the Sacred Heart Hospital. In general the results have so far been favorable, and but little anæsthetic in the nature of ether was required after two doses of scopolamine morphine. Dr. Mackay read a paper entitled "Hereditary Chorea in Eighteen Members of a Family, with report of three cases." The history of this French-Canadian family was gone into thoroughly, and the three cases were reported at length.

In the morning clinics were held at the Sacred Heart and Protestant Hospitals, where, besides interesting ward cases being shown, a psoas abscess was operated upon, and a salpingo-oophorectomy performed.

The meeting was held in the Monument National owing to the courtesy of the committee through Dr. Rioux.

## CURRENT CANADIAN MEDICAL LITERATURE.

The Canadian Practitioner, March, 1906.

### DIABETES.

When Dr. Arnold Lorand, of Austria, was in Toronto some time ago, he delivered an address before the Toronto Medical Society, a résumé of which appears in the foregoing journal. He states that the disease appears generally in those who are fond of rich food, meats and carbohydrates, and especially if of a nervous temperament and engaged in occupations that call for the expenditure of nerve energy, as lawyers, doctors, and diplomats. Diabetes only develops spontaneously in dogs when fed on albumens and sweet foods. These foods, after a certain time, may exercise an injurious effect on such glands as the thyroid and the pancreas. When the pancreas has been removed in dogs, the thyroid gland becomes overly active, as in Grave's disease. Abundant meat foods exercise an injurious effect upon the thyroid, while too much carbohydrate food damages the islands of Langerhans. According to Lorand diabetes is due to degeneration in the pancreas and hyperactivity in the thyroid. The disease should be detected early if possible. In some cases it is necessary to detect sugar in the urine to give the person a test dinner of  $\frac{3}{4}$  ounces of grape sugar two hours after breakfast. If the disease is taken in time, its treatment is promising. The main object is the prevention of diacetic acid. Meat should be limited. The diet should be mixed, little meat, green vegetables, a few eggs, cream, and, in severe cases, much milk and no meat. Apples, peaches, and oranges are recommended in certain quantities. Graham bread should always be given. In severe cases, much alkali should be given per rectum, so as to save the stomach. In severe cases the sugar and diacetic acid may continue. Drugs are of no value in prolonged treatment. Antithyroidin may influence the symptoms.

Note. The other articles in the *Practitioner* are already mentioned.

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The Dominion Medical Monthly, February, 1906.

### ANTE AND POST-PARTAL EXAMINATIONS.

This paper was read by Dr. F. Fenton, of Toronto, at the meeting of the Ontario Medical Association last June.

Under the heading of ante partal examinations he mentions (1) general examination of the mother, (2) urinary examinations, (3) special abdominal examinations, and (4) vaginal examinations. Under the head



of the general examination the condition of the heart and lungs should receive due attention, in order that any defects may be detected and corrected before labor comes on. With regard to the urinary examination, it must be noted that 5 to 10 per cent. of pregnant women have a transient form of albuminuria; and in other cases there may be eclampsia and no albumen present. It must be borne in mind, however, that in most cases of eclampsia there is nephritis, of which albuminuria is a significant evidence. While making the abdominal examination care should be given to the position of the child, its probable size, and whether more than one. The size and shape of the pelvis should also be noted. A vaginal examination is of use to determine the condition of the cervix. It also assists in deciding whether a vertex presentation or not.

With regard to post-partal examinations, the writer contends that they are important as a means of noting the return of the parts to their normal condition. In examination for the position of the uterus the same hour of the different days should be about the same, and the bladder and bowels should be empty. The progress of involution may be delayed by multiparity, advanced years, lactation, prematurity of labor, prolonged labor, retention of secundines or blood clot, septic infection of the endometrium, lacerations of the cervix, and grave disturbances of the health from any cause. If the fundus does not fall down for three or four days to its proper level the delay in involution is likely due to retention of secundines or clot, infection of the endometrium or laceration of the cervix. The older the woman and the larger the number of children the slower the fall of the fundus as a rule. Delayed involution with fever is usually caused by sepsis affecting the uterus, while the same condition without fever is due to laceration of the cervix in most cases. If involution has not progressed for several days a careful examination should be made.

#### ERYTHEMA GANGRENOSUM.

The report of this case is given by Dr. E. R. Hooper, of Toronto. The patient was a married woman, 41 years of age. In April, 1904, she had to have the appendix removed. In June of the same year she began to show signs of mental derangement, becoming depressed with suicidal tendencies. During August her left arm was scratched and a gangrenous sore formed. Gangrenous patches gradually and steadily spread over the entire left side. Subsequent to this there appeared a number on the right side of the abdomen and on the right thigh. These were not as severe as those on the left side. The parts supplied by the brachial, lumbar and sacral plexuses suffered most. Sensation was delayed on the left side and the muscular sense was clearly impaired. By the first week in January the last ulcer had healed.

## MEDICAL THOUGHTS DURING LEISURE HOURS.

The title tells one that Dr. James S. Sprague, of Stirling, is the author. Dr. Sprague is a sort of Canadian Barrie in medicine. In this article the writer commends the action of the council in selling the College Building. He thinks \$20,000 should be enough to secure the needed accommodation in a suitable part of the city, and that the remainder of the money might be laid by as a rest fund.

Hope is expressed that we may yet have Dominion registration, and the needs for it once more pointed out.

A keen shaft is thrown at the Montreal critic who, some time ago, called in question the wisdom and good taste of mentioning the name of Hippocrates and other great fathers of medicine in introductory addresses. Not to mention such names "would be sacrilegious." The progress of medicine, its struggles and triumphs, as revealed by a study of the lives of the master minds in medicine should not be neglected. We need ideals, and they are to be found in these great names.

Among other thoughts Dr. Sprague makes rather light of some of the cases that have been called smallpox, and is inclined to doubt their reality.

Much praise is accorded Collier's monthly for its work in telling the public the nature of the patent and proprietary medicine business. Here the writer again directs attention to those medical men who will lend their aid to boom any fraudulent compound.

The writer then regrets that so many doctors give much of their time to other issues than the study and practice of medicine. He points out the fact very many doctors do not depend wholly upon their profession for a living, but are engaged in other pursuits as well.

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The Montreal Medical Journal, February, 1906.

## PERIODIC VARIATIONS IN NORMAL URINE.

Drs. Evans and Moore, of Lafayette, Ind., give this paper. It is based on a series of investigations of a very practical character. This may be epitomized thus:—

1. The volume varied from 20 to 90, with a grand average of 37.9 c.c. per hour, or 910 c.c. in 24 hours. The accepted amount is 1500 c.c. These experiments give a smaller amount than has been usually called normal.

2. The reaction was acid in 113, neutral in 33, and alkaline in 3 samples. The results seem to show that rest rather than gastric digestion diminishes the acidity of the urine.

3. The color was yellow in 23, reddish yellow in 59, yellowish red in 48, and red in 9. In the main dark colors give high specific gravities, though some light-colored urines give very high specific gravities.

4. The gravity varied from 1014 to 1032, with a grand average of 1024.

5. The hourly solids varied from 1.30 to 3.26, with a grand average of 2.09 grams, or 50.2 grams in 24 hours. This is less than the quantity usually given, namely, 72 grams per 24 hours.

6. The urea varied from 1.20 to 3.50, with a grand average of 2.31 per cent. This is higher than what is usually regarded as normal, namely, 2 per cent. The grand average of the urea was 20.4 grams per 24 hours, the normal being generally given as 30 grams.

7. The solids not urea gave 29.76 grams per 24 hours, which is decidedly lower than what is generally regarded as normal, namely, 42 grams.

These investigations show that the urine of a normal case may vary very much in quantity and composition in 24 hours.

#### HYDATID DISEASE.

In this article, Dr. C. K. P. Henry, of Montreal, reports 12 cases as having occurred at some time in the Montreal General Hospital. The *tænia echinococcus* finds its host in the dog, wolf and jackal. The ova are excreted in the fæces and reach the alimentary tract of man through water or food. Most cases are intra-abdominal, and by far the largest percentage in the liver. Two cases are reported in full, and were operated upon. One made a good recovery, but had a fistula, while the other had a recurrence of the disease from a small cyst commencing to grow.

#### PULMONARY TUBERCULOSIS TREATED WITH OZONE.

Dr. J. H. Cotton, of Toronto, reports 19 cases of pulmonary tuberculosis as cured or very greatly improved by the inhalation of ozone. By a certain electric apparatus ozone is generated in the room occupied by the patient. Pure ozone is too irritating to be borne by the respiratory tract. This is overcome by a spray of the super-oxide of camphor, which enters the respiratory organs and becomes attached to the mucous membrane. This takes up the ozone and decomposes it, passing the oxygen on to the tissues, and again decomposes more of the ozone. This process goes on indefinitely by means of the cineol in the camphor peroxide. Five or six weeks are required in cases not too far advanced.

## RECURRENT ATTACKS OF CYANOSIS IN CHILDREN.

Two cases of this condition are placed on record by Dr. W. S. Morrow, of Montreal. One of these cases was a breach presentation. It was some twenty minutes before respiration was established. During the first day and night the child had twelve attacks of cyanosis, when the respiration ceased and the child became blue. It was a week before the color became normal all over the body. Artificial respiration had to be resorted to. The heart was normal.

The second case began taking the attacks when twenty days old. She had fifteen or twenty attacks, when respiration almost ceased, as a rule, and sometimes entirely so for a few seconds. No heart murmurs were detected. The feature of these cases was cyanosis, almost cessation of respiration, and weak heart action. Under artificial respiration the attacks lasted about five minutes. As to the causes, the writer does not think that brain lesion, laryngismus stridulus, patent foramen ovale, or swallowing the tongue explained them. He thinks the cause is partial atelectasis in the lungs. This irritated the pneumogastric nerves and induced these attacks. Emmet Holt is quoted to the effect "The condition is one in which there is a persistence of the foetal state in the whole or in any part of the lung." In both of these cases there was difficulty in establishing respiration after birth.

## INTESTINAL OBSTRUCTION.

Dr. Geo. E. Armstrong, Montreal, opens with the remark that much of the unsatisfactory results in intestinal obstruction are due to delay in its recognition and faulty methods of treatment. Attention is directed to the fact that collapse is not due to the obstruction *per se*, but to the injury to the bowel, and the amount of collapse is somewhat proportional to the degree of the injury and the extent of bowel involved. Collapse may occur in perforation, the passage of a gall stone, the twisting of the pedicle of an ovarian cyst, or the rupture of a blood vessel in the abdominal cavity. The pain in the same way is due to the injury to the intestinal wall and in proportion to it. The vomiting is reflex and not due to the fact that the canal of the bowel is occluded. Constipation is the one symptom that may be due to obstruction. It may be reflex and due to other causes. Meteorism and scanty urine may occur apart from obstruction.

If these symptoms last for 12, 24 or 36 hours despite proper treatment, the probability of obstruction is almost a certainty.

The injudicious use of opium may disguise the symptoms so that an accurate diagnosis is impossible, and may lead to dangerous delay, by allaying the pain and making the patient unwilling to accept an operation. The pain may be greatly relieved by washing out the stomach, withhold all food and drink by the mouth, and apply ice bags to the abdomen. If these measures are carried out fully there will be little need for morphine.

Obstruction may be caused by a large gall-stone passing into the bowel, by bands, by twists in the bowel, or an internal hernia, where the bowel is strangulated by the mesentery. Thrombosis of the vessels have paralyzed a section of the bowel and caused all the symptoms of obstruction by arresting peristalsis. Chronic and recurrent attacks of obstruction may be due to growths of some kind pressing upon the intestinal canal. Angulation of the bowel may give rise to more or less complete obstruction.

In the surgical treatment of obstruction, adhesions and bands may have to be broken up, a tumor removed, a twist undone, a section of gangrenous bowel removed, or the portion above the obstructing cause connected with that below it.

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The Maritime Medical News, February, 1906.

### TRACHEOTOMY IN WHOOPING COUGH.

At the meeting of the Canadian Medical Association, Dr. A. B. Atherton, of Fredericton, N.B., reported a case of a child, aged six years, who was passing through a severe attack of whooping cough when an attack of laryngitis came on which had some features of diphtheria. The dyspnoea became so pronounced as to demand tracheotomy. This not only relieved the laryngeal symptoms, but very greatly relieved the spasms of whooping, both in frequency and severity. Antitoxine was given freely but did not relieve the laryngeal stenosis. On the third day after the operation the tube was left out. As the wound gradually closed up the coughing attacks and spasms returned to some extent, but never very severely, and the child made a good recovery.

### THE PRODROMATA OF INSANITY.

Dr. W. H. Hattie, of Halifax, contributes a paper on the above subject. He makes the statement that insanity is on the increase in Canada. He discusses the early symptoms of general paresis, and remarks that when a person about 35 years of age shows changes in

disposition and character we should look for changes in the pupils, tremor in the lips and tongue, exaggerated knee jerks, and blunting of the cutaneous sensibility. In some cases the early symptoms closely simulate those of neurasthenia, and may lead to a mistake unless every care is taken.

Dementia praecox is mentioned as a form of insanity which is on the increase. It generally occurs under the age of 25. The development of bad habits may be the first symptom of the disease. There may be a reasonless depression, lack of sensitiveness, dreamy states, loss of natural affection, vivid hallucinations may occur, and a tendency to act in a silly manner.

Melancholia is usually met with during the involutionary period. The early symptoms are apprehension and depression, a strange but distressing feeling in the head, loss of sleep, an incapacity for work, paræsthetic sensations, vaso-motor disturbances, indefinable fear, loss of muscular power, constipation, and other digestive disturbances of an obstinate nature. In time, mental symptoms appear. When these cases alternate with mania, the period of excitement is usually preceded by feeling of well-being and a strong desire to be doing something. Melancholia is characterized by subjective symptoms and mania by the objective.

The recurrent form of manic depressive insanity is most likely to occur during the years of development rather than at or after mid-life, as is the case in true melancholia.

#### GUNPOWDER INJURY TO BOTH EYES.

Dr. H. H. McNally, Fredericton, gives a case of a boy who sustained a gunpowder burn of both eyes. The burnt conjunctiva was removed under cocaine. The same was done to the skin. The parts were dressed with a lotion composed of calamine and zinc oxide, of each  $\frac{1}{2}$  drams; glycerine, 4 drams; aq. calcis, 4 ounces, and hydrogen peroxide to 8 ounces. This removed all the discoloration and effected good healing. The eyes were not bandaged for fear of adhesions forming. Pain was relieved by a two per cent. solution of cocaine, and atropia, two grains to the ounce, was instilled twice a day. The discharges were washed off with boracic acid lotion. Later on an ointment of hydrarg. ox. flav., one grain to the dram, was applied to the lids. He made a good recovery and sees well. There is a white scar on one cornea.

### SOME COMPLICATIONS OF PREGNANCY TREATED SURGICALLY.

F. D. Donoghue, M.D., Boston, mentions in his paper some of the complications of pregnancy which may be the subjects for surgical treatment. Appendicitis is one of these. The author of the paper states that in all cases the pregnant woman should be operated upon as if she were not pregnant. If there is cessation of the pain without improvement in the symptoms the best rule is to operate at once. When there are well-marked acute symptoms referred to the right iliac fossa, operate at once.

Ovarian tumors may be removed during pregnancy, but each case must be judged on its merits. Much will depend on how far the tumor may interfere with labor.

With regard to uterine fibroids it is stated that: "On moral grounds the induction of labor early in pregnancy has no justification whatever. It is fully as serious as the performance of an operation to relieve the condition which complicates the pregnancy, and in the great majority of the cases the pregnancy will continue to term."

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### THE WAR AGAINST QUACKERY.

Some recent revelations of the methods of a certain concern have attracted the attention of President Roosevelt, who has adopted what was doubtless the most effective expedient for dealing with such a case. Two directors of the company were arrested, charged with using the Post Office with intent to defraud. In the course of the investigation it transpired that the company has or had on its directorate several of the leading financiers of the Republic—men who were supposed to be of unquestionable integrity. The names of nearly a million patients appear on the books of the concern, to whom impossible promises were made, and from whom were exacted fees and prices enormously in excess of actual value.

It is a hopeful sign of the times that a very respectable proportion of the leading magazines now refuse to accept the advertisements of "patent" medicines. Is it too much to expect that the religious periodicals will soon follow suit? Possibly it is even not too venturesome to trust that there is a day coming when members of our sister professions, notably judges and clergymen, will cease to give testimonials for the nostrums so widely advertised.

## CURRENT MEDICAL LITERATURE

### MEDICINE.

Under the charge of A. J. MACKENZIE, B.A., M.B., Toronto.

#### SYPHILLIS IN MONKEYS.

Professor Neisser, with his associates, have reported on their work so far carried out in Batavia on the inoculation of monkeys of different kinds with syphilis. About 900 animals of the different species of simians were used, but little that is going to have immediate practical bearing on prophylaxis or treatment has been discovered. Although in general it was found that the virus of human and ape syphilis was more easily inoculable than that of the lower monkeys, this difference was neither pronounced nor constant, but it did seem certain that the more florid the process from which the material was obtained the more prompt and sure was the appearance of characteristic lesions at the site of inoculation. Successful results were obtained from primary glands, secondary lesions such as condylomata and mucous patches, and in some cases from tertiary products. Human blood and serum gave negative results, as did also experiments with simian organs such as spinal cord, liver, lung, kidney, muscle, and adrenals, while positive results were obtained from the spleen, bone marrow, glands, and testicle. Attempts to reduce the virulence of the poison by passage through lower monkeys were not conclusive, though Neisser apparently inclines to the belief that an increase of potency in this way is rather more likely. Out of forty cases in which syphilitic virus and vaccine virus were inoculated together only twice did syphilitic infection take place. Attempts to produce infection by subcutaneous injection failed in every case. It was not found possible to devise any method by means of which the virus could be preserved more than a few hours, and it was found that eighteen hours after the death of an animal its virus had become inactive. Excision of the site of inoculation eight hours after the infection did not prevent the development of the disease, and the injection of mercury from the time of inoculation was also ineffectual in aborting the infection. In regard to the all-important question of immunity the results were not very encouraging. Indeed Neisser goes so far as to suggest that possibly what we are accustomed to call immunity in an individual who in consequence of a previous infection has become refractory to subsequent infections may not be immunity at all, and may depend simply on the persistence of a latent syphilis. Owing to lack of time the observers were not able to



study the spirochete question very thoroughly, though Neisser favors the view that these organisms do stand in causal relationship to the disease.—*Medical Record* February 24th.

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### CHLOROFORM IN ALCOHOLICS.

In *Le Progrès Medical*, January 6th, there is an editorial on this question suggested by the decision of one of the minor courts in a case of syncope fatally following the administration of chloroform to an alcoholic.

The patient was a young man who had dislocated his elbow in a scuffle. It was reduced by the physician, but some movements were limited and further examination was not possible on account of the swelling and pain. An examination under anæsthetic was suggested and accepted although with some perturbation; it was not convenient to call in a consultant and the chloroform was administered by the attending physician. After a preliminary stage of struggling the patient sunk into a comatose condition and never recovered from the syncope, notwithstanding all efforts directed toward his revival. The case came before an inferior tribunal, who asked the opinion of a famous Parisian medico-legal expert. He gave it as his opinion that all was done that could have been done, but the court held that the practitioner was remiss in not informing the patient of the danger he ran as an alcoholic instead of reassuring him. Of course if the doctor had said that there was additional danger from this cause the patient would probably have refused. The case will come up on appeal before a superior court and there the question will be argued, not only as to the added danger if any that alcoholics run, but also as to the responsibility the practitioner took in giving the anæsthetic without apprising the patient of the added danger if any that he was running. The general opinion in Paris seems to be that there is no special danger in these cases.

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### THE DISTRIBUTION OF MOSQUITOES IN THE UNITED STATES.

In the *Medical Record*, Jan. 26th, there is an abstract of the report prepared by the authority of the Surgeon-General of the United States on the collections of mosquitoes made at all the army posts in the country during 1905. The only interest in this to Canada is to note how far north the insects inhabited by the malarial parasite are found. We note the *Anopheles* at seven posts in New York State, including Fort Niagara, and one post in Ohio.

## THE LIMITS OF HYPNOTISM.

In a recent article in *Cosmos*, Paris, reviewed in the *Literary Digest*, there is a discussion of hypnotism and its therapeutic possibilities, with a review of the theories that have been held as to its field. At first when hypnotism was suggested as a means of relieving physical and mental troubles it was believed that before long it would prove the most generally available remedy, but it has been shown by experience that the limits are as follows:—

(1) Hypnotism, since it is by no means inoffensive, and may be contraindicated as well as indicated, should not be employed except by a practised physician.

(2) We must not expect suggestion to cure a purely mental state, nor even a grave and profound neurosis like hysteria.

(3) The capital indication of hypnotism in therapeutics is furnished by the precise localization of the neuroses to be treated, especially hysteria.

The author goes on to say that when nervous disease is treated hypnotically certain of the nervous symptoms disappear, but a cure rarely results.

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THE HEART IN TUBERCULOSIS

In the *Medical Record*, March 3rd, Hutchinson of Redlands discusses the condition of the heart which is associated with and predisposes to tuberculosis. He notes that the old method of attempting to discriminate between certain phthisical types has been found of little practical value because almost any undeveloped, languid or unhealthy child or young adult, from whatever cause defective, could be fitted under one or other of them; and moreover that such distinctive features as are present in those who afterwards become clearly consumptive are almost invariably the signs of an early stage of tuberculosis, or of tuberculous involvement itself, most frequently in the glandular system; but many of them clear signs of the beginning involvement of the lung itself, such as rapid pulse, cold extremities, chilliness, easy fatigue, afternoon flush, sparkle of the eye, etc.

One general physical characteristic which seems to indicate a predisposition to tuberculosis is unusual tallness of stature in young adults as over five feet eleven in men or five feet seven in women; although sufficient data have not as yet been collected to give an indubitable proof, the figures from the Life Guards, who average six feet two, show a mortality more than double that of the Royal Artillery, where the minimum is as low as five feet four inches. The shape of the chest, too, is a useful

indication, seven hundred measurements showing that the type of chest most common is a round high indexed chest, approaching more to the embryo type than to the typical adult, and indicating not so much a lack of lung as a surplus or unused lung as the cause of danger.

For a long time it has been known from clinical and autopsy study that the typical consumptive was an individual with a small heart, and Fothergill says with a large lung. Some observers have stated that the heart was larger in this disease, but it must be remembered dilatation of the chambers is common, and the old idea that heart disease was infrequently concomitant with tuberculosis is generally abandoned.

The writer was for nearly two years engaged in making autopsies upon the bodies of animals dying at the London Zoological Society's Gardens, where there was found large amounts and infinite variety of tuberculous lesions. He found that the question of zoological affinities did not seem to have much bearing on the distribution of the affection, but that the question of food seemed to suggest an interesting parallel. While tuberculosis was found in both animal and vegetable feeders in captivity, it is never a frequent cause of death except in herbivora or mixed feeders; but while it is almost a pestilence among cattle, etc., monkeys and fowl, other purely herbivorous animals, as sheep, horses, zebras, etc., are exempt. A further explanation was sought and was found in the fact that not one of the carnivora was found to have a heart much less than one one-hundredth of its body weight, while among the herbivora, both bird and mammal, none of those whose heart weight was in excess of this standard were to any degree susceptible.

The writer's experience in the Portland Open Air Sanatorium is of value; since the opening over eighty cases have been observed. In all but fourteen of these the heart was noted as weak, defective in its first sound, abnormally rapid in its beat, giving a peculiar soft, running, easily compressible quality to the pulse. In sixteen cases the heart outline was carefully studied and it was found that the average distance of the apex from the middle of the sternum was 6.5 centimetres instead of the normal 7.5 to 9 given by Vierordt, while the right border extended barely three instead of 4 to 5.

The bearing of all this on treatment furnishes support for the methods already supported by experience.

First of all, the putting of the patient at absolute rest as long as there is an afternoon temperature of  $100^{\circ}$  or over, is precisely of the same common sense logic which leads us to put our edematous and gasping patient with the big aortic regurgitant murmur to bed and keep him there.

Secondly, the enormous overfeeding with highly nutritious foods containing a large percentage of live proteids, in the shape of eggs and milk, tends both to neutralize the toxins, which are poisoning the cardiac

ganglia and breaking down the cells of the muscle-wall, and to supply nourishment in a readily soluble form to make good the defect. Over-feeding is the weightiest part of our modern treatment of consumption.

Thirdly, the constant exposure to the purest and freshest of air gives adequate amount of oxidation with the minimum of depth and frequency of respirations and consequent reduction of the demands on the over-taxed heart. In short, the whole rationale of the open-air treatment looks much more toward the heart than it does toward the lung. The chief value of exposure to the open air is to enable the patient to over-feed.

The conclusions which the writer adopts as a basis for further study are as follows:—

That a weak, undersized, muscularly deficient heart, indicated by weak, rapid pulse and defective first sound, approaching embryocardia, is one of the most constant and significant conditions present in consumption.

That this condition in a considerable percentage of cases precedes the development of tuberculosis; the earlier in the disease this condition is presented, and the more striking its degree, the more serious the prognosis.

That in tuberculosis as in pneumonia and typhoid, while the chief seat of toxin production is in the lungs or bowels, the *chief strain falls upon the heart, and death in the majority of cases is due to toxic heart failure.*

That this undersized and inadequate heart is, like the round, high-indexed chest, the persistence of conditions, normal at about the period of puberty.

That the condition of the heart should be our principal guide, in the diagnosis, prognosis, and treatment of consumption; if the pulse is slowing and strengthening, never mind the lung.

That a persistently rapid pulse without other ascertainable cause, should always rouse suspicions of incipient tuberculosis.

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#### PSEUDOLEUKEMIC ANEMIA IN INFANCY.

In the *Medical Record*, Feb. 3rd, Sill reports two cases of this disease, which is very rare, Luzet finding only one case in 1,500 cases of anemia. It is a disease of infancy, with marked oligocythemia, oligochromemia permanent leucocytosis marked splenic enlargement moderate or slight enlargement of the liver, and at times enlarged lymphatic glands. In simple anemia the leucocytosis is not so great and the spleen is only slightly enlarged. It is diagnosed from leukemia by the disproportion between the size of the liver and spleen. There is a difference

of opinion as to the cause, though some writers believe it is due to rickets, syphilis, etc.

In the two cases reported by Sill the disease seemed to be due to faulty feeding and gastro-intestinal disturbance; the blood examination of the first case gave these figures:—Hemoglobin, 30 per cent.; red cells, 4,064,000; color index, 0.35; white cells, 84,000.

*Red Cells*: Poikilocytosis, slight; polychromatophilia, marked; anisocytosis, marked; granular basophilia, slight. Nucleated red cells: Normoblasts 39 megaloblasts, 4, malarial parasites not found.

*White Cells*: Differential (400 counted), polymorphonuclears 38.5 per cent., lymphocytes 44 per cent., large mononuclears and transitionals, 12 per cent., eosinophiles 2 per cent., mast cells 3.5 per cent., myelocytes 0.

## SURGERY.

Under the charge of H. A. BEATTY, M.B., M.R.C.S., Eng., Chief Surgeon Canadian Pacific Railway, Ontario Division; Surgeon Toronto Western Hospital and Consulting Surgeon to the Orthopedic Hospital.

### THE OPERATIVE TREATMENT OF HERNIA IN INFANTS AND YOUNG CHILDREN.

In the *British Medical Journal*, October 1st, 1905, Stiles condemns the Bassini operation as a routine procedure in children. He says that "the indications in performing the radical cure in the young are to isolate and ligate the neck of the sac with the least possible damage to the inguinal canal. The operation he prefers is practically the one introduced for adults by Sir Mitchell Banks. After disinfecting the skin the day before the operation, a boracic poultice or a sterilized gauze dressing should be applied over night. Carbolic poultices should not be used, especially in children, as they are likely to produce severe general depression or even fatal collapse. The incision, which is made a little above and parallel to Poupart's ligament, should not extend down into the scrotum. After exposing the spermatic cord and the pillars of the external abdominal ring, the former, along with its coverings, is freed from the surrounding subcutaneous tissue. The coverings of the cord are caught up laterally at the lower part of the wound by two pairs of forceps, and are then divided longitudinally, layer by layer, with a sharp knife. By turning aside this fascia and grasping its cut edges with the catch-forceps, the pampiniform plexus of veins, covered by the thin fascia transversalis, can be seen on its lateral aspect. The peritoneum of the patent funicular process is exposed by incising the transversalis fascia parallel and just internal to the plexus of veins. This fascia, along with the

veins, is stripped off the sac by means of a blunt dissector or by dissecting forceps. The vas deferens and its vessels are treated in the same way. The fascia transversalis is next stripped off the inner aspect of the funicular process, which is finally freed around its entire circumference. The separation of the above structures is continued downward until the fundus of the sac is isolated and drawn out of the wound. Should the sac extend well into the scrotum or be continuous with the tunica vaginalis testis, it may be cut across a little below the external ring. The sac is grasped with forceps and held on the stretch while the constituents of the cord are being separated from it in an upward direction as far as the internal abdominal ring. Except when the neck of the sac is unusually wide and the walls of the canal weak, it is unnecessary to fix the stump to the anterior abdominal wall; the ends of the ligature applied to the neck of the sac may be cut short, and the latter allowed to slip back up the canal. If the sac be properly freed at its neck and put well on the stretch the ligature will be applied high enough to avoid leaving a funnel-shaped depression at the level of the internal ring. The canal is closed by introducing a single catgut suture through the outer pillar close to Poupart's ligament, superficially to the cord, and then from within outward through the conjoined tendon and the inner pillar of the ring. By reducing the size of the external ring and including the conjoined tendon in the suture, the liability to the development of an acquired hernia in after life is diminished. It is important to avoid the use of a drain in children. Hemorrhage must be carefully arrested. The space beneath the subcutaneous tissue of the somewhat undermined wound must be obliterated by the introduction of one or two buried catgut sutures or a single silkworm gut mattress suture through the skin and subcutaneous tissue. The skin wound is closed by horsehair stitches. The after-treatment which has given the best results in Stiles' hands is to smear the wound with iodoform out of a 1 in 1,000 sublimate solution, and dust with boracic acid powder, no further dressing being applied. The infant is kept in bed, flat on its back by means of a strap passed behind the shoulders and through the armholes of a flannel band passing across the front of the chest. A metal cage is placed over the child's body to keep the bedclothes from coming in contact with the wound. The nightdress is pinned up and covered with a binder so as to leave the lower part of the abdomen exposed. A piece of boracic lint is pinned around the lower edge of the folded-up gown. All that is necessary is to keep the wound thickly dusted with boracic acid, or, if preferred, with a mixture of boracic acid and iodoform. The average duration of the child's stay in the hospital after operation was rather less than a fortnight."

## A NEW METHOD TO AID IN THE DIAGNOSIS AND TREATMENT OF GONORRHOEA.

Alexander (*Centralbl. f. d. Krank. h. d. Harn. u. Sexual Org.*, April, 1905) asserts that it is possible, by the injection of a solution of hydrogen peroxide, to demonstrate the presence of gonococci, even where the usual provocative tests fail. The strength of the solution employed must vary in proportion to the duration of the process and the amount of urethral secretion, the quantity according to the capacity of the urethra. The procedure is that a quantity of one per cent. solution of  $H_2O_2$  is injected—just enough fluid until the patient experiences a slight distention—and allowed to remain in the urethra for one minute; less if the gas formation in the urethra is very active. The first part of the escaping foam is not used; rather the latter, and the expelled shreds. The secretion to be examined is then placed upon a clean slide, dried, and stained as usual. According to Alexander, it is possible, by this method, to bring about a dislodgment of the gonococci from their hiding places, without injury to or irritation of the membrane. He prefers Merck's "Perhydrol," which contains thirty per cent. of  $H_2O_2$ , adding twenty-nine parts of water to one of perhydrol to prepare the one per cent. solution.

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NON-TUBERCULAR JOINT LESIONS.

In the *Buffalo Medical Journal*, January, 1906, R. O. Meisenbach writes on the above subject and presents the following conclusions:—

1. Villous arthritis is a local process, affecting chiefly the synovial membrane of the joint.

2. Rheumatoid or atrophic arthritis is a progressive disease, running a definite course, with early atrophy of the joint structures, resulting in marked crippling if left untreated.

3. Hypertrophic or osteo-arthritis is irregular in its course, characterized by true hypertrophy of the bone and ossification of the articular cartilage and the ligaments.

4. Infectious arthritis may be caused by any of the micro-organisms or their toxins, may manifest itself as mono- or polyarticular and results in thickening of the tissues with resulting ankylosis.

5. Chronic gout is a comparatively rare disease, showing deposits of crystalline substances in the periarticular structures, and resulting in the absorption of the bone, which begins as localized punched out areas, first affecting the diaphysis and finally the entire bone.

## GYNÆCOLOGY.

Under the charge of S. M. HAY, M.D., C.M., Gynæcologist Toronto Western Hospital;  
Consulting Surgeon Toronto Orthopedic Hospital.

## POST-OPERATIVE CYSTITIS IN WOMEN; ITS CAUSES AND PREVENTIONS.

Dr. Fred. J. Taussing, writes an exhaustive article on this subject in the February *Surgery Gynecology and Obstetrics*. He gives the following main points in the etiology of this condition:—

1. Post-operative cystitis is met with, not at all frequently, after gynecological operations, particularly after the radical abdominal operations for cancer (60 per cent.)

2. The frequency and severity of the affection is directly proportionate to the amount of bladder derudation.

3. The two main factors in the etiology are trauma and infection; to these a third, urine retention, may possibly be added.

4. Urine retention is only to a slight degree a direct factor in the etiology, by giving a chance for bacteria to multiply in the stagnating urine. For its relief, however, it requires the introduction of a catheter, and this is undoubtedly the most frequent cause of post-operative cystitis, so that indirectly it is of the utmost importance in a consideration of the etiology.

5. The urine retention may be due to a bend in the urethra caused by malposition (after Alexander's operation), or to paralysis of the detrusor vesicæ, due to interference of its blood supply or to excision of a portion of its nerve supply.

6. Trauma in these cases is usually due to ligation or bruising of blood-vessels. With this is occasionally associated an incision into the bladder either accidentally or as in carcinoma or urethral implantation intentionally.

7. The bacteria producing the infection may be originally in the bladder (previous chronic cystitis). They may have migrated from the rectum, the vaginal fund, along an implanted ureter, or by ascension from the urethra. Such modes of entry are, doubtless, the exception. The rule is, that the post-operative cystitis is primarily a catheter cystitis.

8. Investigations show that every urethra in women confined to bed contain not merely staphylococci, but colon bacilli as well. The disinfection of the urethra is an impossibility. Hence with each catheterization germs are carried into the bladder.

9. A few catheterizations rarely produce a cystitis. When, however, the number is increased, as in prolonged retention to five or six days, the organ seems no longer able to resist the invasion and a rapid multiplication of bacteria with beginning of inflammation results.



The following are the chief points in the prophylaxis :—

1. Try to avoid urine retention by the use of one or several of the following methods :—Filling the bladder with sterile water at the conclusion of the operation, injecting boroglycerin solution into the full bladder, having the patients sit up out of bed as early as the nature of the operation will allow.
2. In the operation, handle the bladder carefully, and cover its denuded surface as well as possible before the close.
3. Prevent the introduction of germs from the urethra as far as possible, by using a double catheter such as devised by Rosenstein.
4. Internally, you may give urotropin, helmitol, etc.
5. Above all, wherever catheterization has to be continued for some time irrigate the bladder each time with one or two pints of boric acid solution and continue such irrigations with each catheterization, not merely until the first spontaneous urination, but until there is no longer any residual urine.

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#### HAS EXPERIENCE SUSTAINED THE MORE RADICAL OPERATION FOR CANCER OF THE UTERUS.

An article appears, on the above subject, in the February number of *Surgery, Gynecology and Obstetrics*, written by Dr. John G. Clark. He asks the very pertinent question: "Does cancer give early metastasis?" and says, in answer, we have had various and very divergent opinions. Ribes, who was the first to advocate a radical operation, with a view to the eradication of the pelvic lymph glands, still holds the opinion that metastasis occurs very early, and has consistently advocated the principle of glandular extirpation. Cullen was one of the first investigators to go on record against the theory, for he found in only a small proportion of cases involvement of the pelvic lymph glands. As the result of his study he made the following statement: "As a matter of fact, the glands are not often involved, at any rate only very rarely before the disease has advanced so far that the case has become inoperable." In regard to cancer of the body of the uterus, Dr. Cullen says: "It may be said that in nearly all operable cases of adenocarcinoma of the body no glandular involvement has taken place." Winter's view coincides with that of Cullen. The writer of the paper says that there is little argument left in favor of the extensive dissection of the glands, with the largely added mortality that must necessarily follow this step from shock, infection, and other complications. He says his own conclusion, therefore, although very reluctantly reached—for he had hoped for decided improvements in permanent results—is, that we lose more than we gain in the radical operation when the glands are painstakingly

extirpated, and to remove here and there a palpably enlarged gland will certainly not promote the patient's interests, so far as a radical cure is concerned. His rule is to remove one or more glands for microscopic examination, provided they are palpably enlarged and easily accessible. If metastasis is found, the prognosis is inevitably bad. He has found that almost invariably there were recurrences at the site of the vaginal scar, and not in more or less widely remote metastatic areas. In operating Dr. Clark adheres to the abdominal route, and removes all possible tissue in the vicinity of the primary site of the growth, using the cautery rather than the knife. In general, the principles laid down in Wertheim's latest publication are followed, which consist in the removal of a considerable cuff of vagina with the uterus and as much parametrium as is possible, but not prolonging the operation by a dissection of the glands.

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## OBSTETRICS AND DISEASES OF CHILDREN.

Under the Charge of D. J. EVANS, M.D., Lecturer in Obstetrics, Medical Faculty, McGill University, Montreal.

### NUTRITIVE BOUILLON IN THE GASTROENTERIC DISORDERS OF INFANCY.

M. Lesage in his *These de Paris* commends in acute diarrhoeas of infancy, after the withdrawal of all milk, the substitution of a rice soup in place of water, which has the advantage that whilst the water diet cannot be continued much beyond a period of twenty-four hours the rice soup can be given without other food for a period of time up to eight days. Further advantages he claims for his vegetable bouillon are :

(1) The soup is taken very willingly.

(2) The stools improve rapidly.

(3) The weight begins to increase almost immediately. This rapid increase in weight is due to the rehydration of the tissues effected by the presence of the sodium chloride in the soup. Of course if the increase in weight is found to be due to œdema the soup must be withdrawn at once.

(4) The reintroduction of milk into the diet is facilitated, inasmuch as the milk is better tolerated by the stomach when mixed with the soup, as the putrefaction of nitrogenous substances is prevented by the farinaceous elements of the soup, and there is left, therefore, more albumin for assimilation.

Lesage's vegetable soup is made of elements that can be found everywhere, but it must be prepared with great care. Its composition is as follows :

- / Potatoes, 60 grammes ;
- Carrots, 45 grammes.

Turnips, 15 grammes.

Dried peas, 6 grammes.

Dried haricots, 6 grammes.

These are put in a litre of cold water and allowed to boil for four hours in an earthen or porcelain pot, which must be kept carefully covered. At the end of this time the juice is strained and the vegetables are thrown away. The broth being reduced in quantity in the cooking the quantity is restored to a litre with boiled water and then 5 grammes of sod. chloride are added for each 1000 grammes of liquid. There is thus obtained a decoction of a yellowish hue, slightly turbid, and possessing a very agreeable saccharine taste, it is highly acceptable but possesses in itself of very little nutritive value. It is, in short, a solution in the water of all the soluble salts (salts of sodium potassium, phosphates, etc.) contained in the vegetables.

This soup, in order to produce good results, must be given fresh. It must be prepared daily, and even in the summer months one can, by diminishing the proportions, prepare morning and evening the amount necessary for the following period. It should be kept in a fresh environment either in a receptacle submerged in cold water or, better still, in a refrigerator. This soup serves as a base for rice soup in the following manner: The rice flour is dissolved in the broth cold, taking care to break up the lumps which are liable to be produced, so as to obtain a thoroughly homogenous mixture. The hot bouillon is gradually added and is cooked for about fifteen minutes. The quantity of rice flour to be added varies according to circumstances. For infants over 6 months old a teaspoonful is to be added to each 100 grammes of bouillon. For still younger infants only half a teaspoonful is put in each bottle.—*St. Louis Medical Review*, Jan. 6th, 1906.

## OPHTHALMOLOGY AND OTOTOLOGY.

Under the charge of G. STERLING RYERSON, M.D., C.M., Professor of Ophthalmology and Otology, Medical Faculty of the University of Toronto.

### FOREIGN BODIES IN THE EYE; COMPLICATIONS PRODUCED; TREATMENT.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., in the *Fort Wayne Med. Mag.*, Jan., 1906. states that injury to the eye by foreign bodies, with retention of the body producing the injury, is of such frequent occurrence that a consideration of the subject is of importance.

Generally speaking, any object of small size, no matter what its character, if carried with sufficient force, may either penetrate the eye and remain within the globe or become lodged on its surface. Usually

large objects are not retained in the eye and do not lodge on the surface of the globe, but produce extensive laceration with a large wound through which the contents of the globe escapes, or produce injuries by contusion or concussion only. The character of the injury when a large body strikes the eye will depend somewhat upon the shape and weight of the body, but more upon the force with which it strikes the globe. A bullet from an air gun at short range may come with such force as to penetrate the eye and lodge in the interior of the globe, if it does not even go through the globe and find lodgement in the soft orbital tissues or bone beyond. If it strikes the eye-ball after its force has been spent it will probably produce injury by concussion only. On the other hand, an irregular, angular piece of metal, in bulk no larger than an air-gun bullet, is apt to produce a penetrating wound even in slow moving.

Owing to its size and position the cornea is usually the part of the eye-ball where the foreign body strikes, though occasionally the sclera is the point of injury. When striking the latter membrane the foreign body, on account of the density of tissue invaded, is less apt to penetrate the eye to any considerable depth unless it comes with great force. It is also less apt to produce serious complications, as also less apt to give difficulty in its removal.

More frequently the foreign bodies which penetrate the interior of the eye-ball or find lodgement on its surface are small in size. Mechanics and laborers who work with tools or machinery from which small chips of metal, stone, glass or wood may fly with more or less force, form the larger proportion of cases of penetrating wounds of the eye-ball, either with or without retention of the foreign body, while persons of all walks of life make up the numerous cases in which particles of dust, sand, stone, coal, tobacco, saw-dust, straw, grain, insects and many other things find lodgement on the surface of the eye-ball.

Penetrating wounds with the foreign body inside the globe may at first present less subjective symptoms than an injury by a foreign body which has found lodgement on the surface of the eye-ball. This is particularly true if the foreign body is small and it has penetrated the eye-ball at a high rate of speed without producing a large or gaping wound, without loss of any of the contents of the eye-ball and without producing intra-ocular hemorrhage which would impair vision. Even the wound might escape detection unless a painstaking examination with oblique illumination and ophthalmoscope was not made. The opening in the cornea should be detected by oblique illumination, while a perforation in the iris and a cloudy streak in the vitreous, discovered with the ophthalmoscope, would indicate that a foreign body had passed into the globe. The detection of the foreign body itself in the retina, or a spot of retinal hemorrhage when the body has pierced the retina, can also be determined only by use of the ophthalmoscope.

The early subjective sensations in such cases may be nothing more than a slight scratching sensation, or perhaps a mild ciliary pain, accompanied by a moderate amount of photophobia or dread of light. Impairment of vision may be very slight or quite marked from cloudiness of the media from hemorrhage from the iris, ciliary body or retinal vessels.

If the foreign body is of considerable size, and particularly if it travels at a low rate of speed, the wound is apt to be large, through which the fluid contents of the globe escape, carrying the iris and vitreous humor into the perforation. Prolapse of iris is generally considered as evidence against the presence of a foreign body in the eye, and yet from personal experience with cases of prolapse accompanying perforation by foreign bodies I can say that the rule does not always hold true. With rapid loss of aqueous through either a small or large opening in the cornea there may be prolapse of iris, either with or without the foreign body which has produced the corneal wound lodging within the globe.

The diagnosis of foreign body in the eye is usually more difficult if the case is not seen early, as frequently complications set in which mask the symptoms and manifestations which otherwise would make a diagnosis relatively certain. Few foreign bodies which penetrate the interior of the globe are bacteriologically clean, and with a favorable soil for the propagation of infectious material intra-ocular inflammations are prone to develop early and prove disastrous. Iritis is usually one of the first complications to arise, and with it may develop a cyclitis and perhaps involvement of the whole uveal tract and threatened invasion of the fellow eye by sympathetic inflammation.

The presence of a foreign body in the eye is always of serious import, for in a very large percentage of cases, no matter how treated, the eye is lost and has to be removed to prevent involvement of the other eye by sympathy. In a very small percentage of cases a foreign body in the eye may become encysted and thus cease to be a source of irritation, but such instances are rare and no physician is warranted in expecting such an outcome.

Of late years removal of particles of steel and iron from the interior of the globe by means of a large and specially constructed magnet has been much practised, and with considerable success considering that this class of injuries without removal of the foreign body is considered fatal to the future usefulness of the eye. With the tip of the magnet at the opening, which is the site of entrance of the foreign body, the magnetic current is turned on and after one or more attempts the foreign body either comes to the magnet or becomes lodged in the anterior chamber where it may be extracted by other means. In the best magnet statistics the percentage of cases in which useful vision has been retained is small,

while in not a small percentage of cases the foreign body because of secure lodgement in the tissues in the interior of the eye, has not been removed. Failure to save vision or eye-ball when the steel is removed by magnet is due to inflammation induced by the trauma, the infection, or both. Failure from the same causes would result from removal of the steel by other means. The magnet operation, however, is justified in all cases where the foreign body is subject to the influence of the magnetic current, for there is everything to gain and nothing to lose by the operation, and even the small percentage of success makes the operation a warrantable one in what otherwise would probably be a hopeless case.

If the foreign body is not influenced by magnetic current then the question of removal involves itself into one of surgery, with removal of the foreign body with the least destruction of tissue or loss of contents of the globe as the goal. If the foreign body is in the anterior chamber, removal by delicate forceps or other suitable instruments may be accomplished. If lodged in the iris, an iridectomy, with the foreign body in the section of iris removed, may be successful. If lodged in the lens it may be better to await opacification of the lens substance, which usually follows, and then perform extraction of the traumatic cataract. If lodged in the vitreous chamber it is generally impossible to remove the foreign body without great loss of vitreous, and in such cases removal of the eye-ball is generally advisable.

If the case is not seen until severe inflammatory reaction has set in, and a foreign body is suspected or known to exist, then enucleation at once is the better policy, no matter what the character of the foreign body.

But the more common form of injury with retention of the foreign body are those cases in which the foreign body becomes lodged in the cornea. Cinders, antennæ of insects, blades of grass or straw, hulls of grain, small particles of sand, emory, glass, wood, stone, metal and other objects are blown into the eye by the wind or carried by other agents, and from the force with which they enter, or from pressure of the lid, or by the act of rubbing by the patient, become securely imbedded in the corneal tissue.

The subjective sensations in these cases are usually those of great distress and consist of marked irritation, with scratching, pain, lachrymation, photophobia, and congestion. The temperament of the patient often determines the tolerance of such irritants, and it is not uncommon to find a patient who will tolerate a foreign body in the cornea for some days without being conscious of any marked deviation from normal conditions.

In a case of suspected foreign body in the eye the cornea requires examination with special thoroughness. Owing to the variegated back-

ground presented by the iris it is often difficult to detect the foreign body, especially if it be small, unless the cornea is carefully inspected by oblique illumination. Even then it is frequently advisable to inspect the illuminated surface with a magnifying lens in order to readily detect the presence of very minute objects. Unless the eye is unusually tolerant to manipulation it is better to instil a few drops of weak cocaine solution before attempting the examination, and for the removal of the foreign body cocaine anesthesia of the cornea is an absolute necessity. Cocaine as a therapeutic measure has no place in the proper treatment of these cases either before or after the removal of the foreign body.

Removal of a foreign body from the cornea should always be performed by delicately picking it from the cornea and not scraping it out. I have repeatedly seen from one-quarter to one-third of the cornea denuded of its epithelial layer by some physician in his efforts to scrape out a deeply imbedded cinder, piece of emory, or other small foreign body, and then without accomplishing the desired result. The physician who has not the delicacy of touch and skill required to pick out a small foreign body from the cornea should never attempt the operation.

Following removal of a foreign body from the cornea the eye should be flushed with a mild antiseptic fluid, such as boracic acid solution, and the eye bandaged; for it must be remembered that the removal of the foreign body, if it was imbedded, has resulted in the removal of a small area of epithelium, thus giving access to infection. Usually the bandage need not be worn more than 24 to 48 hours, as regeneration of epithelium is rapid and with closure of the wound possibility of infection has ceased. If infection has already been introduced and ulceration has started, the infected area should be carefully curetted before the bandage is applied. In such cases, too, there may be hyperæmia of the iris and a drop of atropine solution in the eye will be indicated.

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#### THE TREATMENT OF PERFORATIONS OF THE TYMPANIC MEMBRANE, WITH SPECIAL REFERENCE TO THE USE OF GUTTA-PERCHA TISSUE.

David G. Yates recommends the use of patches of rubber to be applied over the perforation, so as to make an airtight joint, in the treatment of recent or long-standing cases of this injury. In applying a patch to the drum a piece of rubber is selected, which is about twice the size of the hole to be covered. The canal and drum are thoroughly sterilized by syringing and mopping, and dried. If necessary, the edges of the perforation are pared or touched with nitrate of silver. The disc is carried into the drum by means of forceps or a cotton-tipped probe

through a speculum, if small, without if too large. It is then pushed into position and the edges pressed down firmly all around. No adhesive material is necessary. The rubber is most conveniently sterilized by keeping it in alcohol or other antiseptic for a few moments while other preparations are being made. The patch hastens the reparative process and at the same time effects an immediate improvement in the hearing. The author sums up the advantages of rubber tissue used in this way as follows: (1) It is convenient, easily sterilized and applied. (2) It is flexible, remains in place for a long time, and requires no adhesive material. (3) In large perforations it has the advantage over the various forms of artificial ear drums in not causing pain or irritation or setting up a discharge. It helps to heal at the same time that hearing is being improved. (4) Healing is rapid and the formation of scar tissue, which is likely later to give way or become the seat of calcareous deposits, is reduced to a minimum.—*Medical Record*, November 11, 1905.

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#### SYMPATHETIC OPHTHALMIA.

S. Snell, *B. M. J.*, *Ophthalmology*, October, 1905, gives details of a case of this affection in which vision was restored in the exciting and sympathizing eye. The patient was wounded on Sept. 8th, 1904, and was seen 11 days later. There was a wound of the cornea, extending into the ciliary region, with prolapse of the iris. The prolapse was excised and the eye healed. On Oct. 12th the right eye was noticed to be red and five days later a severe sympathetic ophthalmia developed. Six weeks later there was recovery with perfect vision. Snell also records three cases in which sympathetic ophthalmia had come on after the offending eye had been excised, one 32 days after and one 106 days after excision. One recovered and two became totally blind.

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#### SIGHT AND HEARING IN TRUANT SCHOOL CHILDREN.

Investigation conducted by Daniel P. McMillan, supervisor of the truant department in Chicago, during several years, proves that many of the boys run away from school because they are discouraged on account of their inability to keep pace with their class mates. He declares further that the reason a majority of these truants cannot keep up with their classes is that they cannot see well or hear well. Nearly all the bad boys brought to the department for examination have sensory defects. Supervisor McMillan declares that, before any great improvement can be made by the child, these sensory defects must be remedied. Therefore, as a first step in curing boys of truancy and delinquency, he will urge their parents to take them to a surgeon and submit to any remedial measures that may be necessary.



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## EDITORIAL.

### ALCOHOL IN PATENT MEDICINES.

The Massachusetts Board of Health some time ago published an analysis of 61 liquid patent medicines on the market. Of these, 34 contain over one-fifth of alcohol. This is equal to about 95 per cent. proof alcohol, or three times as strong as most whiskeys on the market, which are about 33 per cent. proof. It should be noted that 15 contain one-fourth, 10 contain one-third, and 4 contain about one-half alcohol.

Some of these are advertised as cures for the whiskey habit—one of these containing as much as 40 per cent. of alcohol. One is designated a wine bitter and contains nearly 50 per cent. These nostrums are recommended for almost every known disease.

The time has come when our public men should take this matter up. There should be laws placed upon the statute book dealing with this matter. It is time to call a halt on those who wish to vend such mixtures, defraud the public and pocket their ill-gotten gains.

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### A DEFINITION OF MEDICAL PRACTICE.

When cases come into court against such bodies as the Christian Scientists, etc., one of the difficulties is with our Act not clearly enough defining what is meant by the practice of medicine. A short time ago Judge Joseph I. Green, of the New York City Court, gave the following definition: "The practice of medicine is the exercise or performance of any act, by or through the use of any thing or matter, or by things done, given or applied, whether with or without the use of drugs or medicine, and whether with or without fee therefor, by a person holding himself or herself out as able to cure disease, with a view to relieve, heal or cure, and having for its object the prevention, healing, remedying, cure or alleviation of disease."

If we could have such an amendment to The Ontario Medical Act, it would enable the Medical Council to overtake with proper punishment the many ignorant pretenders now practising medicine, and who are able to escape under some technicality.

## FRAUD AND THE POST OFFICE.

A short time ago, at the motion of President Roosevelt, two of the manipulators of a quackery concern were arrested on the ground that they were using the post office service with the desire of defrauding the public. This is vigorous and it is right. If the business is legitimate, the same can be easily shown; but if it is not, it should not be allowed the use of the mails.

It is well within the knowledge of many that some nostrum vendors sent out printed matter through the post office setting forth claims that the medical profession know to be utterly unwarrantable. Now, surely this should not be allowed. No patent medicine should be tolerated on the market for a single day with such claims as positive cures for what are known to be incurable diseases. This is due to the gross ignorance of the maker, or to a desire on his part to defraud the sufferer. It matters little which, it should be brought to an end. One man will surely offer a cure for cancer without the knife, and by means of some nostrum he wishes to sell. Another can guarantee a cure for consumption, while epilepsy, asthma and locomotor ataxia are easy marks.

The remedy is that the government must take this matter up. All remedies that are offered for sale in any way through the mails, either as printed circular matter, or as advertisements in newspapers that are carried by the mails, should be submitted to a government analysis, and if they cannot accomplish what is claimed for them, refuse the use of the post office to them. The people are keeping up the government of the country at great cost, and this much is due the people in return.

Much ado is made about the interference with the liberty of the subject, but the liberty of the subject is soon interfered with if he undertook to print and sell postage stamps, or any such act. If a man has a cure for consumption the foregoing regulation would do him no harm, but really stamp his remedy as genuine and close of all others not genuine. Of course, we use the word *genuine* in the sense that the onus of proof would be on those who wish to place such a remedy on the market, and use in any way the post office. The health authorities should be vested with power to demand proof of the bold assertions made by so many makers and vendors of patent medicine.

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#### THE FACTORS OF SUCCESS.

In his address at Aberdeen University, a short time ago, Sir F. Treves contended that money was not necessary at the commencement of a professional career. Instead of wealth being used as a means to enable its possessor to follow post-graduate and research studies, it was

often employed in the pursuit of pleasure that retarded rather than furthered true progress. He thought the so-called drudgery of making visits and attending upon patients was excellent training.

In like manner he did not regard social position as of much value. The best types of professional men had wrought their way up from humble beginnings. He did not believe in luck. A man should make his way, and not be a creature of opportunity arising to favor him.

Even genius is not needed. The greatest men that have adorned the medical profession owe their success to steady, methodical and persistent work. As examples of this Harvey, Lister, Hunter, are good instances. It is painstaking work, and not the mere flash of genius, that tells in the long run. He preferred the genius that was produced by the gradual synthetic process of building up rather than the congenital form.

The real factors of success were health, serviceable knowledge, sympathy, honesty, and industry. It required strength of body and mind to keep up with a busy professional life. One in poor health might be a real menace to his patient if he was performing a serious operation. The medical practitioner, apart from a thorough knowledge of his profession, should be a cultured scholar.

The successful doctor must be dogmatic. He must assert his opinions upon his patients. It would not do to discuss with a sick man the uncertainties of medicine. The conversation must be kept to solid facts.

Then there must be sympathy and honesty. Without these the practitioner of medicine could not hope for success. Success in the medical profession could not be measured by the accumulation of wealth.

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#### THE PATHOLOGY OF GENERAL PARALYSIS OF THE INSANE.

Dr. W. Ford Robertson, pathologist to the Scottish asylums, has secured for himself an enviable reputation as an original investigator in the domain of mental and nervous diseases. In his recent Morison lecture he states that for a number of years he has been studying the bacteriology of general paralysis of the insane. The conclusions that he has arrived at, along with Drs. McRae and Jeffrey, are that there is a diphtheroid bacillus especially prominent in the respiratory and digestive tracts. He expresses the opinion that the presence of this modified Klebs-Löffler bacillus causes a chronic toxæmia, and accounts for the paralytic features of the disease. He also thinks that syphilis, intemperance, and many of the exacting conditions of civilization reduce the resistance to this bacillus. He states that every step forward makes this diphtheroid hypothesis more probable. Cultures of this bacillus have caused parietic symptoms in rats and goats.

## MR. J. W. FLAVELLE ON DOCTORS.

From the *Globe* of 15th March, we take the following quotation as part of Mr. Flavelle's address before the Board of Control:—

“ Mr. Flavelle said that the trustees had sought the co-operation of the Government, the municipality, and the citizen body, that a worthy plan for a great hospital could be successfully completed. It would be a great disappointment to them, and they thought it would be a great injustice to the enterprise into which so many had entered, if the class interests of professional men who were seeking something for themselves should interfere with the work sought to be accomplished.”

On 6th July, 1905, Mr. Flavelle wrote to the public press of Toronto a letter from which we take this quotation: “ They (trustees of the General Hospital) do not believe the opposition is actuated by a desire to render public service, and I desire to say that the benefit to be secured to the whole community by such a hospital, in every respect outweighs the personal ambition or the desire for hospital association on the part of any or all the physicians and surgeons of the City of Toronto.”

Now, we differ *in toto* from Mr. Flavelle. The medical men of Toronto are not selfish nor self-seeking in this matter, nor are they attempting to block the new hospital. Further, we declare that they are honorable in their desires. It is only reasonable, and, more, it is right that the medical men of Toronto should have hospital facilities at their command. This they are seeking for the public and not for themselves. There is not a doctor in Toronto who desires to attend a city-order patient, but he quite reasonably lays claim to the right to attend his own patient, when that patient pays his way in a hospital. If patients who pay their own way but prefer a public ward can claim the free services of members of the hospital staff, a great injustice is laid on the shoulders of the staff, as many who are able to pay fees escape. We think this is unfair to all.

It makes but little difference what rules the new hospital may lay down, the tendency is growing in Toronto that doctors may attend their own patients, when these patients pay for themselves and are not paid for by the city. Some years ago, a doctor could not attend the highest-priced private ward cases. This was when there was only one hospital. Now, however, there are four general hospitals and a number of special hospitals, and any doctor in Toronto can now make arrangements to attend his own cases, provided they pay for themselves and are not sent in on city orders. This is growing and will in a short time become quite general. It is the determined will of the people to have the right to select their own attendants.

The medical profession of Toronto are, therefore, only asking certain privileges which are reasonable, and in the interests of the public.

## THE MYOCARDIUM IN ACUTE DISEASES.

There is no more important part of the medical attendant's duty than that of watching the myocardium during the progress of, and in the convalescence from, acute infectious diseases. The toxæmia and pyrexia of these diseases may do serious damage to the heart muscle, in the form of a rapid fatty change, small septic foci, or exhaustion of the muscle tissue.

Under these conditions dilatation may occur during the progress of the acute disease or during convalescence, especially if the patient makes undue exertion. From time to time sudden deaths are taking place after diphtheria and during the convalescence from pneumonia. These deaths are due, in most instances, to acute heart failure from dilatation brought about by the diseased condition of the myocardium.

Following these diseases, and typhoid fever, if the persons get up too soon and betake themselves to a busy life, there may be marked dilatation of a more insidious and chronic form, causing very serious impairment of health and necessitating a lengthy period of rest and treatment. These are cases of heart strain, in a sense following acute diseases, and before the myocardium had recovered its normal condition.

It behooves the physician in attendance in all such cases to be on the lookout for dilatation. The pulse and percussion are better guides here than is auscultation. The period of rest in the treatment of these cases may have to be lengthy, but whatever it may be it must be given. It may take many months for the myocardium to regain its normal tone under the most favorable hygiene conditions.

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**VANCOUVER MEDICAL ASSOCIATION ON PATENT MEDICINES.**

The Vancouver Medical Association at its regular meeting of March 12th, 1905, resumed the discussion of patent medicines. There was unanimity in the conviction that laws should be enacted to eradicate the existing evils. It was pointed out that in their promiscuous sale there exists a real danger to the public, and that gross frauds are being perpetrated, and that in their advertisements morally dangerous literature is being circulated.

As is well known, the drugs that are commonly used in patent medicines are opium or its derivatives, as found in consumption or colic cures, and soothing syrups; cocaine in catarrh mixtures, acetanelid in headache powders, chloral hydrate in drink cures; belladonna, ergot and cotton root in preparations recommended as abortifacients; and alcohol, which is used in medicines represented to cure all diseases. Most of these are poisonous, and so immediately dangerous to life.

Opium in any form is particularly dangerous to children. On the other hand, all are even more objectionable if taken for any length of time. At first they relieve symptoms, or supposed symptoms, or create pleasant feelings. This impels the user, who is unconscious of what he is taking, to continue their use until a habit is acquired, which eventually leads to the ruin of his mental, moral and physical nature. Yet these are the drugs that are sold in a secret way and without license.

The majority of these preparations, as well as being dangerous, are fraudulent, because the vendors of them, in their advertisements, claim to cure many diseases which scientists know are incurable. But there is another class of preparation which is absolutely fraudulent. They contain no drug of any medicinal value, but depend for their sale entirely upon the extravagant and false claims of the manufacturer. Thus the despairing chronic or the imaginative neurotic is preyed upon.

Then again in the advertisements which appear in our periodicals, both religious and secular, very corrupting literature is constantly being circulated. This cannot but have a debasing effect upon some, and is disgusting to all others.

The secrecy which the existing laws allow in connection with the so-called patent medicines is mainly responsible for all these evils. If persons knew, as they should know, what is offered them, they would be able to discriminate between the beneficial and harmful, and between the honest and dishonest.

Many of the worst of the patent medicines are distributed through His Majesty's mails, which, it seems, should not be allowed.

At the close of the discussion, the following resolution was unanimously adopted:—

“Whereas, in the opinion of the Vancouver Medical Association, there exists a real menace to the community in connection with the sale of patent medicines, and

“Whereas the evils are so complex that a proper solution can be arrived at only by competent disinterested persons;

“Be it resolved that the Dominion House of Commons, now in session, be petitioned to appoint a commission to investigate this whole matter with a view to enacting laws which will eradicate these evils.”

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#### BRITISH MEDICAL ASSOCIATION.

The seventy-fourth annual meeting, 1906, will be held in Toronto, August 21st, 22nd, 23rd, 24th and 25th. The following is an abstract of memorandum for officers of sections:—

*Meetings of Sections.*—The sections will meet on Tuesday, Wednesday, Thursday and Friday (August 21st, 22nd, 23rd, and 24th) at 9.30 a.m., adjourning at 12.30 p.m. each day.

*Sectional Committee of Reference.*—The President, Vice-Presidents and Secretaries of each section will form a Committee of Reference, and shall exercise the power of inviting, accepting, declining, or postponing any paper, and of arranging the order in which accepted papers shall be read.

*Guests.*—Papers by guests will be presented upon invitation. If the Committee on Reference desires to invite persons to read papers in the section who are not eligible to become members of the Association, their names should be submitted for the approval of the Council. If it is desired to ask any such persons to attend the meetings of the section and take part in the discussions a general permission to issue such invitation should be obtained. All papers read are the property of the British Medical Association, and may not be published elsewhere than in the *British Medical Journal* without special permission.

*Discussions.*—Secretaries are requested to communicate to the General Secretary a preliminary statement of the arrangements made for the discussions in the section to be laid before the Council at the earliest possible moment. This should consist of a statement of the subjects selected, together with the names, if possible, of the gentlemen who have undertaken to open the discussions.

*Papers.*—The offer of a paper should not be accepted on its title alone, and save under exceptional circumstances no paper should be accepted for reading until it has been sent to the secretaries. The secretaries are requested to communicate to the General Secretary of the Association, 429 Strand, London, W.C., not later than June 15th, a complete list of papers approved and accepted for reading. It is suggested that the secretaries resident in the United Kingdom should collect papers from members on this side, and the secretaries in Canada should deal with all papers in the Dominion and the United States. Only titles of papers which have been accepted, and which may be reasonably expected to be read, should be included in the programme of sectional proceedings. Offers of papers ought not to be accepted in excess of the number likely to be read. Failure to observe this condition leads to many inconveniences and gives rise to complaints of unfair preference.

*Report in the British Medical Journal.*—A report of the actual proceedings of the section will be published in the *British Medical Journal* and in any communication addressed to persons who offer papers to be read in a section two things should be made quite clear:—

(1) That papers read are the property of the British Medical Association and cannot be published elsewhere than in the *British Medical Journal* without special permission.

(2) That the authors of papers not read have no claim for the publication of their papers in the *British Medical Journal*. Papers cannot be

taken as read. If not read they form no part of the proceedings of the section.

Secretaries are requested to co-operate in preparing the report of the proceedings of their section for publication in the *British Medical Journal*, with the reporter of the *British Medical Journal* appointed to the section, and to hand to him all matters for publication for transmission to the Editor of the *British Medical Journal*, 2 Agar street, Strand, London, W.C.

The attention of authors should be particularly directed to the time limit (see below), and the text of papers submitted for publication in the *British Medical Journal* as part of the report of the section should represent what is actually read to the section.

It is important that each author should hand the text of his paper in proper form for publication to one of the secretaries of the section immediately after it is read. It should be made clear that neglect to comply with this request may result in the omission of the paper in question from the proceedings of the section subsequently published in the *British Medical Journal*.

*Time Limit.*—The attention of the Council of the Association has been called to the non-observance by readers of papers of the rule as to time limit, which is as follows: "No paper must exceed fifteen minutes in reading, and no subsequent speech must exceed ten minutes." The attention of Presidents and Secretaries of Sections is particularly requested to this rule.

The Honorary Local Secretaries are Dr. F. N. G. Starr, Professor J. J. MacKenzie, and Dr. D. J. Gibb Wishart, the Medical Laboratories, University of Toronto, Ont.

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## PERSONAL AND NEWS ITEMS.

Dr. and Mrs. Bruce Smith have moved to their new home, No. 177 Walmer road.

Dr. M. B. Dean of Fort William has recovered from his recent illness.

Dr. Chambers of St. Michael's Hospital, Toronto, has arrived in Fort William and will assist Doctors Cook and Stewart in their practice.

Dr. and Mrs. Currie, Picton, are in Toronto during the session of the Legislature, guests of Mrs. W. A. Clarke, Avenue road.

Dr. A. McKay of Tillsonburg has gone for a period of post-graduate study in London.

Dr. W. Jeffers of Lindsay was operated on recently for appendicitis while in Toronto.



Dr. and Mrs. Irving, formerly of Toronto, have gone west to Edmonton, where Dr. Irving will practice his profession.

Dr. J. W. Stirling has been appointed to the chair of ophthalmology at McGill, as successor to Dr. Buller.

Dr. Charles O'Reilly of Toronto was among those presented at the recent levee held by the King at Buckingham Palace.

Drs. Langrill and Murray have entered into a medical partnership at Atwood.

The fund for Dr. Wallace's family has reached the sum of nearly \$9,000.

Dr. G. Silverthorn, of Toronto, has just recovered from an attack of diphtheria.

Dr. W. H. Millen of Woodslee, Essex, will leave shortly for Hillsdown, near Red Deer, Alta. His practice in Woodslee will be taken by Dr. Stephen F. Millen.

Among the recent appointments to the permanent militia force is that of Dr. F. Leonard Vaux of Ottawa, who becomes major in the permanent Army Medical Corps and moves to Toronto.

Dr. Dugald McBain of Rainy River, who has been ill for the past two months with typhoid fever in St. Thomas, Ont., has so far recovered as to be able to return home.

A happy event occurred at the Empress Avenue Methodist Church parsonage, namely, the marriage of Miss Ethel Lloyd to Henry Wallwin, M.D., both of Barrie.

Dr. E. A. Haist has sold out his practice at Exeter to Dr. P. J. McCue of Shelburne, who takes possession the latter part of the month. Dr. Haist intends moving to Hamilton.

Dr. Bayard of St. John, N.B., met with a very painful accident a short time ago. As he was going out to his carriage he slipped and fell on his face, receiving some severe bruises and cuts.

Dr. R. W. Hallada of Daysland, Alta., and Miss Edith Moysey of Toronto were married recently at that place by Rev. R. E. Findlay. Miss Elsie Day assisted the bride, and Captain Carstairs the groom. This was the first wedding in Daysland.

Dr. E. Herbert Adams of Toronto, has left for the West. On the 19th he sailed for China, where he will spend some little time in seeing the country. Dr. Adams has a brother, a missionary, in China, who is in a rather critical position owing to the uprisings.

Prominent residents of Woodstock are making an effort to induce Dr. W. D. Rankin to again locate in that town for the practice of his profession. A few months ago Dr. Rankin removed to Vancouver, but returned last week to attend his mother's funeral, when the movement started to induce him to return.

Dr. Robert H. Craig, who has received the appointment of assistant laryngologist at the Montreal General Hospital, received his early education at the Montreal High School, and graduated from McGill University in 1896. He took a post-graduate course at the Vienna and London hospitals, before which he served as house surgeon at the Maternity and other Montreal hospitals.

The Alberta Medical Association was organized 7th March, 1906, at a meeting of doctors held in Calgary. There were about forty doctors present from the various parts of Alberta. The following officers were elected: Hon. President, Dr. Kennedy, Macleod; President, Dr. Brett, Banff; Vice-presidents, Dr. Braithwaite, Edmonton, Dr. Lafferty, Calgary; Secretary, Dr. Cumming, Calgary. The Calgary doctors tendered the visitors a banquet in the evening at the Yale Hotel.

## OBITUARY.

### MATTHEW WALLACE, M.D.

Dr. Matthew Wallace, one of the most widely known and esteemed medical practitioners of Toronto, died on Saturday, 3rd March, 1906, at his residence, corner of Queen and George streets, after an illness of seven months. Last September he underwent an operation for the removal of a tumor. For a while afterwards he showed some improvement, but it was only fleeting, and for some weeks his condition had been critical. Saturday morning he began to decline rapidly and passed away at 11.30 o'clock, surrounded by members of his family.

The late Dr. Matthew Wallace was a self-made man. Born in Lockton, Peel County, Ontario, 57 years ago, he went to work early in life and earned the money in railroad construction to put him through college. Entering the University of Toronto, he proved one of the brightest students and graduated in 1880 with honors from the Toronto Medical School. Dr. Wallace took a post-graduate course in the treatment of cancer and midwifery in New York, and ranked high in the medical profession. He practised always in Toronto, first on George street, just south of Queen, and latterly at Queen and George streets. Dr. Wallace was an earnest worker in connection with St. Paul's Roman Catholic Church and St. Michael's Hospital.

It was said of the late Dr. Wallace that his charity knew no bounds, and that for his professional services among the poor he not only rendered no accounts, but gave freely from his own pocket to the needy inmates of the sick home. In the deceased physician every poor person felt that he had a friend whose work in life seemed not for dollars and cents, but

for his humanity, and, outside of the family circle, it will be by these people that Dr. Wallace will be greatly missed.

Deceased leaves a widow, one girl and four boys, the eldest of whom is only thirteen years of age. A sister in Lockton and a brother, William, in this city, also survive.

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#### MARK D. STARK, M.D.

The death is announced of Dr. Mark Dugald Stark of Oxford, England. Dr. Stark was well known in Toronto, where he had many friends and relations. He was a medalist of Trinity College, Toronto, a member of the Royal College of Surgeons, London, and a licentiate of the Royal College of Physicians, Edinburgh. After obtaining his British degrees Dr. Stark was appointed a surgeon in the service of the P. and O. Steamship Company, in which capacity he visited Egypt, India, China, etc., during which time he met his wife, who was a Miss Weinholt, and was married at the British Embassy, Rome. After leaving the P. and O. service he purchased a practice in Wantage, Berkshire. His wife's health failing, he went for two years to Corsica, where he also practised his profession, afterwards entering into partnership with Mr. Sankey, surgeon in Oxford, where he enjoyed an extensive practice for many years. Dr. Stark leaves a widow and six children. His early education he received in Dundas, under Mr. Hunter. His father, Rev. Mark Young Stark, A.M., instructed him in Latin, Greek, French and German. After his father's death he went to Galt, attending the Collegiate Institute under the late Dr. Tassie; then to McGill College, Montreal, and afterwards to Trinity Medical College, Toronto. Dr. Stark, through his father's family, was connected with many well-known people, among others Prof. Dugald Stewart, Sir George Napier, one of Wellington's generals; Sir William Hamilton, Bart. His sisters are Miss Stark of Toronto, Mrs. Middlemiss of Ingersoll, and a brother, Mr. Robert Stark of Toronto. Dr. Stark and Dr. William Osler were fellow-students and warm friends.

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#### F. X. PERRAULT, M.D.

Dr. F. X. Perrault, former superintendent of the St. Jean de Dieu Insane Asylum at Longue Pointe, died 6th March, 1906, at the Hotel Dieu, Montreal, after two weeks' illness. He was born in Montreal in 1825, and after pursuing his studies at the Montreal College, he studied medicine at Victoria College, and began practice at Point aux Trembles, where he occupied all positions of trust in the gift of his fellow citizens. When the Sisters of St. Jean de Dieu took over the asylum he was

appointed jointly with Dr. Howard as superintendent. A few years later the Government appointed him a member of the medical board of the asylum. Two years ago he retired from practice entirely. His wife, who was Miss Charlotte Demers, survives him after over fifty years of married life. Dr. Perrault was a Conservative in politics, and was one of the trusted lieutenants of Sir George Etienne Cartier when that statesman was at the height of his career.

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J. F. HALSTED, M.D.

Dr. J. F. Halsted died on Saturday, 3rd March, 1906, at the residence of his daughter, Mrs. Arnold G. Gilroy, 52 Harriet street, Winnipeg, at the age of 84 years, after an illness extending over a month. Dr. Halsted formerly resided at Grand Valley, Ont., and went to Winnipeg in August last year. He leaves five children, one son residing in Toronto, another in Hamilton, Mrs. Gilroy of Winnipeg, Mrs. John Harper of Grand Valley, and another daughter in Ontario. A brother lives at Mount Forest, Ont., and another brother, Dr. Samuel Halsted, resides in Oklahoma Territory. Mrs. Forke of Guelph is a sister.

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WM. CHRISTIE, M.D.

Dr. W. Christie, of St. John, N.B., died on 8th February, in his 70th year. He was born in Westfield, King's County, N.B. He studied at Jefferson College, Philadelphia. He practised continuously in St. John.

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SILAS P. EMES, M.D.

Dr. Emes died at Niagara Falls, a short time ago, after a lingering illness, due to diabetes. At one time he lived in Winnipeg. He was 67 years old.

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WALTER HURT, M.D.

Dr. Hurt died in the Winnipeg General Hospital 16th January. He was 30 years of age, and practised in Belmont, Manitoba.

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A. H. COOKE, M.D.

Dr. Cooke practised at one time in Mount Pleasant, Ontario. He died on 10th January in Chicago.

## A. L. JUKES, M.D.

Dr. Jukes died at Vancouver, B.C., in December last, at the advanced age of 85 years. He was born in India, and was for many years surgeon to the North-West Mounted Police Force.

## W. A. COMFORT, M.D.

Dr. Comfort, of Beamsville, died at the age of 83.

## J. W. R. BOYER, M.D.

Dr. Boyer, of Barrie, died of typhoid fever, on 12th of February. He was 62 years of age, and had not been in active practice for some time. At one time he practised in Russia and the State of Virginia. He was a British graduate.

## BOOK REVIEWS.

## GYNÆCOLOGICAL DIAGNOSIS.

A Manual for Students and Practitioners, by Arthur E. Giles, M.D., B.Sc., Lond.; F.R.C.S., Ed.; M.R.C.P., Lond.; Gynæcologist to the Tottenham Hospital; Surgeon to Out-Patients, Chelsea Hospital for Women. With thirty-five original illustrations. London: Bailliere, Tindall & Co., 8 Henrietta street, Convent Garden. Toronto: J. A. Carveth & Company. Price \$2.25, 1906

Dr. Giles is a well-known writer. Of late years many books have been appearing upon the subject of diagnosis. The pelvic organs have had their share of attention in special and general treatises. The present volume comes forward to claim a place among works on the pelvic organs of women, and we are glad to accord it a first place. The author very properly contends that in accurate diagnosis lies the foundation of all true medical and surgical treatment. From start to finish this book is replete with sound information. The synopsis of symptoms given in tabular form throughout the book are extremely helpful, and convey in a glance the important points to be borne in mind in distinguishing one condition from another. The arrangement of the matter in the book is both original and scientific. The plates are very fine and reflects much credit upon the author, as they are all original. We can recommend this book with great confidence and pleasure.

## THE WORLD'S ANATOMISTS.

Being concise biographies of Anatomical Masters from B. C. 300 to the present time, whose names have adorned the literature of the medical profession, by G. W. H. Kemper, M.D., Professor of the History of Medicine in the Medical College of Indiana, Indianapolis, Ind. Revised and enlarged from the original serial publication in the *Medical Book News*, with eleven illustrations, nine of which are portraits. P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia. 1905. Price, 50 cents.

This little booklet contains a short biographical sketch of 229 famous anatomists. Each sketch gives the name, birth place, dates of birth and death, his discoveries, and the structures bearing his name. These brief little sketches are most interesting and instructive. It is soon seen how long and tedious has been the pathway trod by this branch of medical science. Little by little have we come to our present knowledge of Man. Step by step amidst much gropings in the dark we know now how the human body is constructed and the student can enter into a heritage that has taken centuries to acquire. How the eyes of Tulpius would have gleamed to have seen an edition de luxe of a modern work on anatomy! All honor to these great names

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 PHYSIOLOGY AND BIO-CHEMISTRY.

Recent Advances in Physiology and Bio-Chemistry. Edited by Leonard Hill, M.B., F.R.S. Contributors: Benjamin Moore, M.A., D.Sc., Johnston Professor of Bio-Chemistry in the University of Liverpool; J. J. R. MacLeod, M.B., Professor of Physiology, Western Reserve University, Cleveland, U.S.; Leonard Hill, M.B., F.R.S., Lecturer on Physiology, the London Hospital; M. S. Pembrey, M.A., M.D., Lecturer on Physiology, Guy's Hospital; and A. P. Beddard, M.A., M.D., Assistant Physician, late Demonstrator of Physiology, Guy's Hospital. With diagrams. London: Edward Arnold, 41 and 43 Maddox street, Bond street, W. 1906. Price, 18 shillings net.

This is one of the most difficult books to review we have seen in a long time, and the reason for this is the fact that it is so full of highly important facts and statements, all of which are equally worthy of comment. Dr. Moore discusses Energy Transformations in Living Matter, Chemical Transformations in Living Matter and its Products, Velocity of re-action and the Comparative Action of Enzymes and Cells, Influence of Other Factors upon Enzymes and Cells. Theories as to the mode of Action of Catalysts and Enzymes, Secretion and Glandular Mechanism. Dr. Hill writes upon The Atmosphere, The Effect on Life of Lessening the Barometric Pressure, The Influence of increased Atmospheric Pressure, The Relation of Water Metabolism and the Regulation of Body Temperature, The Metabolism of Fat. Dr. MacLeod takes up the Metabolism of the Carbohydrates, of Uric Acid and other Purin Bodies, Hæmolysins and Allied Bodies. Dr. Pembrey treats

of The Respiratory Exchange, and Internal Secretions. Dr. Beddard closes the book with chapters on The Production of Lymph, The Mechanism of Absorption from the small Intestines, The Formation of Urea, and the Secretion of Urine. Each of these sections has a number of subdivisions, so that it will be readily seen that the subject of Physiology and Bio-Chemistry in its relationship to disease is very fully covered. The many and intricate questions of metabolism receive in this book a very careful and exhaustive examination. The book is one on medical physiology, or the application of physiology in the study of disease and the scientific aspects of pathology.

In the discussion of "the fate in the organism of the glycogen stored in the liver" Bernard's view is espoused as opposed to that of Pavy. The former taught that glycogen filled a function in animal life similar to that of starch in vegetable life, namely, "that of a reserve carbohydrate." Pavy held that "glycogen never again, under normal conditions, becomes transformed into sugar, but is built up into non-carbohydrate substances, namely, fat and proteid, which then undergo metabolism along their own lines," the balance of evidence is in favor of Bernard's theory.

It would be impossible to review the innumerable important topics of this work, such as the function of the suprarenal glands, the metabolism of uric acid and the purin bodies, the origin of urea, etc. All we can say is that it is a veritable storehouse of information and should be carefully studied.

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### THE OPHTHALMOSCOPE AND HOW TO USE IT.

With colored illustrations, descriptions, and treatment of the principal diseases of the Fundus. By James Thorington, A.M., M.D., author of "Refraction, and how to Refract" (third edition), and "Retinoscopy" (fourth edition); Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine; Member of the American Ophthalmological Society; Fellow of the College of Physicians, etc. 73 illustrations, 12 colored plates. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street, 1906. \$2.50.

This book does not pretend to be a complete text book of ophthalmoscopy, but is an excellent guide for the student and general practitioner. It is clearly written, systematic and practical. The important matter of the normal fundus and its variations has been carefully and fully described. In many text books on ophthalmoscopy the normal is but scantily treated of. In practice without a thorough knowledge of the normal and individual variations no man can become a reliable diagnostician. The illustrations are good and the colored plates by Miss Margareta Washington excellent.

### THE PHYSICAL EXAMINATION OF INFANTS AND YOUNG CHILDREN.

By Theron Wendell Kilmer, M.D., Adjunct Attending Pediatricist to the Sydenham Hospital; Instructor in Pediatrics in the New York Polyclinic Medical School and Hospital, New York; Attending Physician to the Summer Home of St. Giles. Garden City, New York. Illustrated with 59 half-tone engravings. 12mo., 86 pages. Bound in extra cloth. Price, 75 cents, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

This is a small book of 86 pages. It deals with the whole question of the physical examination of children. Much light is thrown upon the bearing of certain signs to disease. The book is got up in a very neat form. Very full instructions are laid down on the performance of auscultation, palpation, inspection, pucussion, etc. It is quite an interesting little volume, and just as useful as interesting.

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### CHRISTIANITY AND SEX PROBLEMS.

By Hugh Northcote, M.A. Crown octavo, 257 pages. Bound in extra cloth. Price, \$2.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

Works such as these, by Havelock Ellis, Westermarck, Letourneau, Krafft-Ebing, Crawley and others, have endeavored to throw light on the nature of the sexual instinct, and the origin of the sense of modesty, shame, or sinfulness in connection therewith. Those who would understand much of the world's vice and crime can no longer ignore the immense influence of the sexual passions in their causation. The present volume discusses a vast number of the topics arising under sexual perversion of some sort or other. The book is well worth reading.

### MISCELLANEOUS.

#### THE RATIONALE OF THE USE OF IRON IN THE TREATMENT OF PHTHISIS.

It is a singular, yet significant, fact that, with the exception of a single disease, there is always a slight diversity of opinion among physicians as to which one of a number of agents exercises the greatest curative influence upon a given disorder.

The one exception is phthisis. The entire profession is united in the conviction that pure air, more than any other factor, exerts a controlling influence upon the development of phthysical manifestations. Indeed, physicians concur in the opinion that, with the proper quality and quantity of atmosphere, this most widespread and fatal of all human maladies can oftentimes be cured.



While the beneficial influences of climate upon phthical individuals has long been recognized by the profession, a perfect understanding of the exact manner in which atmosphere arrests the progress of the disease is a comparatively recent acquisition.

The opinion at one time obtained that mountainous and elevated districts were beneficial to phthical subjects on account of the elevation alone. Recent investigations have disproved this theory. It is now an accepted fact that elevation, *per se*, is of little or no importance. On the contrary; the seashore is oftentimes better adapted to phthical individuals than regions of a much higher altitude.

While it is true that the higher the altitude the less prevalent is phthisis, the explanation is that atmospheric impurities are less abundant and ozone is fore plenteous in such regions than elsewhere. In other words, it is conceded that the absence of atmospheric impurities and the presence of ozone are the chief elements in the cure of phthisis, and that any section, high or low, which affords these elements is advantageous to the phthical individual.

The benefit derived by consumptives from living in or near pine forests is a matter of common observation. The turpentine exhaled from pine trees converts oxygen into ozone, and the atmosphere is thus purified by the process of oxidation.

Having repeatedly proved that the direct inhalation of ozone is of little, if any, benefit, we are forced to the conclusion that it is not ozone which arrests the progress of phthisis, but the systemic oxidation which is brought to the maximum by the inhalation of a perfectly pure atmosphere.

In fine, we are now agreed that if systemic oxidation can, in any manner, be maintained at the proper standard of activity without exhausting the vital forces of the subject, the progress of phthisis can be checked, and very frequently completely cured.

Although the benefits derivable by phthical individuals from an atmosphere that is conducive to a full measure of systemic oxidation are immeasurably great, the fact remains that it is not always within the power of the physician to induce the patient to move to a region affording such an atmosphere. The patient may, through inability to pursue his vocation, be financially unable to make a change of residence, or he may be influenced by the optimism peculiar to phthical subjects, to postpone the change until the disease has progressed too far.

When, for any reason whatever, it is not possible to change the abode of these subjects, it is within the power of the physician to check the progress of the disease by the augmentation of systemic oxidation.

While all forms of iron increase systemic oxidation by converting the oxygen in the economy into ozone, the mucous surface of the alimentary tract of phthisical subjects is usually too enfeebled to absorb iron unless it is presented in the organo-plastic form. For this reason, Pepto-Mangan (Gude) affords results which cannot possibly be secured from any other preparation of iron.

In addition to promoting oxidation to a surprising degree, Pepto-Mangan (Gude) invigorates the digestive functions and increases the nutritive processes most markedly. The appetite of the patient is improved, the wasting is arrested, and the vital resources are greatly enlarged by the continued employment of the preparation.

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#### SANMETTO.

Dr. J. T. Newman, of New Orleans, La., in a paper on "The Selective Action of Sanmetto upon the Genito-Urinary Apparatus," says: "I have used this remedy (Sanmetto) in all forms of cystitis and other affections of the urinary apparatus, but I desire more particularly to call attention to its value in chronic prostatitis, which occurs more especially among old men; and I can truly say, without exaggeration, that in my hands it has especially selective action upon the prostate. I am sure that any medical man, who will give Sanmetto an impartial trial, will become convinced of the truthfulness of this assertion."

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#### ALKALOIDAL vs. FLUID MEDICINES.

In a recent issue of *The Eclectic Review* Dr. Pitts Edwin Howes makes some telling points concerning the superiority of liquid medicines over alkaloids.

"Experimentation," he says, "has demonstrated that liquids are much more promptly absorbed than articles of a semi-fluid or more compact nature. . . ."

"The alkaloids, when you have said the best you can in their favor, are, at best, only a part of the original plant. We are apt to term them the active principles of the plant. How are we to demonstrate this fact absolutely? Can it be demonstrated? I think not. Who would be rash enough to assert that all of the good of cinchona lies in the quinine, or that of nux vomica in the strychnine? And not only of these two, but also of the entire list of plants, which, by means of manipulation, can be caused to give up their alkaloidal principles.

"Those who are at all familiar with the early history of the Eclectic School of Medicine know how nearly it came to shipwreck because

of the wild enthusiasm over the idea of alkaloidal medication. Fortunately, the error was discovered early, and the more rational and scientific method of using the entire plant was substituted. Without doubt there are fewer therapeutic nihilists to-day among the Eclectic practitioners than any other school of medicine. It is due to the fact that they use almost exclusively the liquid medicines."

Dr. Howes' remarks are pertinent. We have long contended that the full and most beneficial medicinal action can not be obtained by the use of isolated principles of drugs. The resinoid distraction of the early Eclectic is still remembered tremblingly by those who had the good of Eclecticism at heart. The divorced principles of plants do not in any sense fulfill the same therapeutic uses that result from the employment of the naturally combined principles of plants. These principles have thus far been best obtained and preserved in liquid medicines. The action of opium, as a whole, differs essentially from that of its many alkaloids. Gelsemine, veratrine, and aconitine are dangerous and unruly medicines in any doses, and do not meet the indications for gelsemium, veratrum, or aconite.

We have nothing to say against the power of some alkaloids. That they possess great force is cheerfully conceded. But in the doses ordinarily used we believe the action of the more powerful ones physiological or even toxic, and not medicinal, as that term is employed in Eclectic medicine. Years of trustworthy experimentation with the alkaloids will undoubtedly establish many valuable uses for them, but that the specific indications, as now applied to the medicines evolved in Eclecticism, can be applied to the alkaloids no reasonable physician can admit. If alkaloids do not represent the full virtues of the plant, they surely do not fulfill indications which have been evolved from the use of the whole plant preparations. We wish alkaloidalists success in anything that will make for the good of medicine and humanity, but we do not hesitate to put ourselves on record as charging it a reprehensible practice to take bodily the indications for full plant medicines and apply them to fragments of those plants. How quickly have the indications and uses of alkaloidal medication grown to massive proportions! Compare their alleged virtues and indications with those of Eclectic fluid medicines, and note the "source of their being."— *Eclectic Medical Gleaner*.

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#### A UNIQUE REMEDY.

I find Angier's Petroleum Emulsion of benefit, not alone in tuberculous cases where it occupies so large a place, but also in many cases of general debility, anæmic conditions and wherever the nutritive processes of the system are faulty it supplies nourishment and medicine at the same time.

I have a few cases of chronic bronchitis that find it the only thing to stand them along through the winter—these “winter coughs” that we do not expect to cure, especially in elderly people, but which we must alleviate. Young or old, take this remedy with equal facility and assimilate it alike.

Angier's is unique in its field, which is a large one. A. P. Reed, M.D., Naples, Maine.

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#### A NEW INFANT FOOD (MOTHERMILK).

Thomson Bros. have recently introduced a new infant food on the market, called Dessicated Mothermilk. The analysis show it to be an exact duplicate of human breast milk. This is made possible particularly through the fact of their being able to supply the necessary lactalbumin and enabling them to supply a food which is chemically and physically a duplicate of human breast milk.

They have simply succeeded in producing a product which is a parallel of Nature's ideal.

Mothermilk should certainly prove a boon to the medical profession in all cases of malnutrition or difficult infant feeding problems.

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#### FROM OLD VIRGINIA.

Ever since the days of Sir Walter Raleigh, the tobacco of Virginia has been famous. A Virginia tobacco specially prepared for pipe use is “Old Chum” Smoking Tobacco, which is a cool, mild, sweet smoke, excelling in quality and long popular with all classes throughout Canada. “Old Chum” is sun cured and flake cut.

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#### PROPER MEDICATION AND CHEERFUL COMPANY.

During the past two months, we have met with more la grippe than anything else, and the number of cases in which the pulmonary and bronchial organs have been very slightly or not at all involved, has been greater than we have noted in former invasions. On the contrary, grippal neuralgia, rheumatism and hepatitis have been of far greater frequency, while the nervous system has also been most seriously depressed.

With each succeeding visitation of this trouble we have found it more and more necessary to watch out for the disease in disguise, and to treat these abnormal manifestations; consequently we have relied upon mild nerve sedatives, anodynes and tonics rather than upon any specific line of treatment. Most cases will improve by being made to rest in bed

and encouraging skin and kidney action, with possibly minute doses of blue-pill or calomel. We have found much benefit from the use of anti-kamnia and salol tablets, two every three hours in the stage of pyrexia and muscular painfulness, and later on, when there was fever and bronchial cough and expectoration, from an antikamnia and codeine tablet every three hours. Throughout the attack and after its intensity is over, the patient will require nerve and vascular tonics and reconstructives for some time. In addition to these therapeutic agents, the mental condition plays an important part, and the practitioner must not lose sight of its value. Cheerful company, change of scene and pleasant occupation are all not only helpful, but actually necessary in curing the patient.

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### A FEW SUGGESTIONS IN SKIN GRAFTING.

#### THE RESULT OF CLINICAL EXPERIENCE.

While admitting that the Thiersch method of skin grafting is superior to the older ones, and in some well-selected cases should be employed, it is not necessary in the majority of cases to curette the entire surface, as is so often done, and cover entirely with skin grafts. If the ulcerous surface of the site on which the skin is to be grafted is rendered aseptic and antiseptic, and the granulations properly stimulated, the grafts may be applied directly upon these granulations, placing them at equal intervals over the surface, commencing from the centre. This method has been followed by results as rapid and fully as satisfactory as where the entire surface has been covered. The advantage of this over the old Thiersch method is, first, the patient is not subject to the pain of having the surface prepared by scraping; second, large quantities of skin are not necessary, which are usually hard to obtain; third, the result obtained is fully as satisfactory and as rapid.

Briefly stated, this improved technique is carried out as follows:—The surface on to which the skin is to be grafted is cleansed by irrigation with Thiersch's solution and then dressed for from twenty-four to forty-eight hours with a wet Thiersch pack. At the end of this time it is dressed with Bovinine, pure, and on the fourth or fifth day it is usually ready for the graft. Small grafts, about the size of a split pea, are deposited at regular intervals, placing the first one in the centre, or at the point farthest from the periphery, and then at regular intervals radiating from this central graft. Over this, plain sterilized gauze is applied and held gently but firmly in position by one or two rolls of a sterilized gauze bandage. This dressing is kept constantly wet with pure Bovinine. At the end of six or seven days it is removed and experience proves that these grafts become firmly adherent by

this time, and under the continued Bovinine dressing rapidly cover the entire surface. If the patient to be treated is anæmic or debilitated Bovinine is given internally, commencing with small doses and gradually increasing to the maximum.

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### CHRONIC AND RECURRENT COUGHS AND THEIR TREATMENT

Abstract of article by J. E. Alter, M.D.,—In treating coughs we quite often encounter obstinate cases, which, no matter what combative measures may be instituted, will continue without abatement. Such cases are best classified as the chronic cough and the recurrent winter cough. Both of these classes are extremely obstinate in their course and yield reluctantly to treatment. They are usually of long duration, and, while not, in themselves, directly dangerous, may become so by inducing emphysema and bronchiectasis.

In the great majority of chronic and recurrent winter coughs, the basic trouble lies in a low form of inflammation of the bronchial mucous membrane; especially that of the bronchioles.

In many cases I have used Codeia, but lately I have been having much more success with another derivative of opium, *i.e.*, Heroin. In comparing the results obtained from the use of these two drugs I notice that heroin will not constipate the patient, nor will it have the stupefying effect characteristic of codeine. Another advantage possessed by heroin is that it is effective in young children, in very small doses.

I have been accustomed to prescribe heroin alone, but, about a year ago, my attention was called to a preparation of that drug—Glyco-Heroin (Smith). Upon giving it a good trial I found that it gave me better results than obtained when heroin alone was given, and much more quickly. Glyco-Heroin (Smith) has one distinct advantage over plain heroin in that it can be given for a long time without ill-effects, and in the class of patients in question this is, indeed, a most important feature. During the past year and a half I have treated a number of cases and recurrent winter coughs with Glyco-Heroin (Smith) and have obtained uniformly good results.

*Example.*—A. L., salesman, aged 28. I saw this patient early in the spring of 1903. He is robust and of good habits. He consulted me concerning a constant cough which had troubled him for over a year. It was usually worse in the morning and after meals, and accompanied by expectoration of thick muco-purulent matter. Sometimes blood-stained, and especially so after a severe paroxysm. This circumstance preyed upon his mind considerably—he thought he had consumption. I learned that he had had a severe attack of acute bron-

chitis during the spring of 1902 and had been coughing ever since. Physical examination excluded tuberculosis. The diagnosis was chronic bronchitis, sequential to acute. The patient was immediately put on Glyco-Heroin (Smith) and the same hygienic measures ordered as in Case 1. Here again the financial condition of the patient precluded change of climate. In addition to the Glyco-Heroin (Smith) the patient was given syrup of hypophosphites as a tonic. I did not see him again until last October. He then reported himself absolutely free from cough. He continued taking the Glyco-Heroin (Smith), and, during the present winter, has not experienced any return of the trouble. In this case a complete cure was effected by means of quieting the cough and stopping the irritation of the mucous membrane, in this manner allowing the restorative powers of the body, aided by the tonics and good hygiene, to accomplish a cure.

*Example.*—Miss R. M., aged 24, teacher. This lady had been coughing ever since she was nineteen years of age. At that time she had had an attack of rheumatism with a complicating bronchitis. After the acute condition had moderated, she continued to cough, the cough being very annoying in character, spasmodic and prolonged. After each paroxysm she was left in a state of exhaustion. During the attacks she urinated involuntarily. On examination she was found to have chronic bronchitis, aggravated by an exceedingly irritable condition of the respiratory tract. The mere odor of cigar smoke was sufficient to induce a paroxysm of coughing. In treating this patient it was necessary to devote attention to the neurasthenia as well as the chronic bronchitis. She was placed on a diet and her mode of living regulated. Arsenic, strychnine and iron in pill form were given. For the cough, I ordered Glyco-Heroin (Smith). The improvement was marked and rapid. The general nervous condition became much improved and the cough grew much less severe and gradually lost its spasmodic character. At the present time it amounts to but little more than a "clearing of the throat." This case, more than any other, demonstrated the excellent properties of Glyco-Heroin (Smith). The quick relief afforded was surprising and no more gratifying to the patient than to me.

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#### DIGESTIBILITY OF EGG-O-SEE.

Herewith are presented the results of the experiments, undertaken with the object of determining the comparative digestibility of Egg-O-Sec and wheat bread.

The ease with which such food as Egg-O-Sec may be digested and made capable of being absorbed by the tissues may depend upon two factors, first the readiness with which the food elements themselves yield

to the action of the digestive enzymes and become broken up into their assimilable cleavage products, and, secondly, the rapidity with which these enzymes are liable to attack the food owing to its condition when eaten. That is, a dry substance like Egg-O-Sec cannot be swallowed without thorough chewing, in the course of which it is reduced to small fragments and easily penetrated by the digestive fluids, while bread on the other hand, especially fresh bread, is much more easily bolted in large pieces and only partially masticated.

The usual procedure in artificial digestion was followed. Carefully weighed amounts of the substances to be tested were taken, the percentage of proteids in each being first determined. These substances were placed in a quantity of distilled water and equal amounts of pancreaticatin and a dilute solution of sodium carbonate added, the whole being put into flasks and the flasks placed in an incubator at 37.5° C. (body) temperature, the digestive process being permitted to act for one and one-half hours for one test and three hours for another series. At the expiration of these periods the digestive process was stopped and the flasks were turned over to Professor Keiser, Professor of Chemistry, for chemical analysis. Professor Keiser first filtered the solution from each flask and after washing the residue with distilled water, dried it and determined its weight. The difference between this weight and the weight of the original substance in each experiment gave the weight of the substance digested and from this was calculated the percentage of digestion.

From these results it was found that in the same period of time and under the same conditions in which 23 per cent. of bread or of crackers is digested, 47 per cent. of Egg-O-Sec is digested. In other words, Egg-O-Sec is twice as easy to digest as bread or crackers. This ratio is not materially altered when the digestion is carried on for a longer time as is seen in the second table.

In the liquid filtered off from the undigested portion in each flask Professor Keiser made careful determinations of the amount of sugar present and found, that the amount of sugar in the digested Egg-O-Sec was four times as great as the amount in digested bread and twelve times as great as the amount obtained from the soda crackers.

Comparing Egg-O-Sec with soda crackers it was evident that the greater digestibility of Egg-O-Sec cannot be due alone to the mechanical factor of its dried condition.—James Francis Abbott, Professor of Zoology, Washington University, St. Louis, Mo.

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