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Original Contributions.

NEUROPATHIC WARDS IN GENERAL HOSPITALS.*

BY CAMPBELL MEYERS, M.D., TORONTO.

Mr. President: As functional nervous diseases have of late occupied a prominent place in the advance of medicine, I thought a few remarks on the practical result of their treatment for the past two years in the special department of a general hospital, might be of interest to this Association.

I may first say that I advocated the formation of neuropathic wards in general hospitals primarily, in the belief that a practical means would thus be found for the prevention of the most serious disease which not only the physician but the State has to contend with, viz., insanity.

I would here state that by the word "insanity," as used in this paper, I would refer only to the *acute* insanities, the psychoneuroses of Kafft-Ebing; and by functional nervous disease, to those forms especially of so-called neurasthenia, in which psychical symptoms predominate, or, as it might be termed, acute psychasthenia. The chronic insanities, such as dementia precox, etc., are not included.

With the many other beneficial results, which arise from the treatment of those functional nervous diseases, in a special department of a general hospital, which do not tend immediately towards insanity in their onward course, I will not detain you.

I would like first to direct your attention to the question of the prophylaxis of insanity from a neurological point of view, viz., by beginning at the earliest stage of the development of nervous

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disease, and proceeding thence to the more advanced stage, when the boundary-line of insanity is reached.

The question of the prevention of insanity has been discussed chiefly by the alienist, who, in spite of every effort to promote this good work, has been greatly handicapped by the existing condition of affairs, since the patient only comes under his care when actually insane, and, in consequence, the patient's state previous to admission must remain more or less a surmise to him. The average general practitioner, under whose care these cases must inevitably first come, has heretofore received an instruction in insanity, and these functional nervous diseases, which has been wholly inadequate in proportion to their importance, and which, when added to the isolated treatment of the insane apart from general hospitals, has unfortunately led to the development of a chasm of considerable dimensions between alienation and general medicine. This chasm will, I trust, be bridged by the neurologist. The study of neurology heretofore has been largely confined to the organic nervous diseases, and the contributions to the elucidation of the problems of this class of disease in recent years by the neurologist has been most gratifying. The functional field, however, with its gates wide open, has admitted but comparatively few workers, and in consequence this fertile field has remained, for the most part, uncultivated.

A preliminary difficulty with which we are confronted in the consideration of these troubles, is their classification, since the nosology of both functional nervous diseases and insanity has been much changed in the past few years.

A discussion as to a line of demarcation between functional nervous disease and insanity is so broad a question as to be entirely beyond the scope of a short paper, and yet some more or less clear conception of what is intended to limit the former is essential. If we attempt to draw a line *pathologically,* it must, in the present state of our knowledge, end in confusion. While all admit that both these forms of disease are due to a lesion in the nervous system, and in many cases a purely functional lesion, yet, to describe an attack of mania as a functional nervous disease, while pathologically correct, would certainly lead to much misunderstanding. Hence, much as it is to be desired that these diseases might be classified on the basis of their pathological anatomy, and further, that the term "functional" as applied to nervous disease should become more restricted, such is at present impossible. We must, therefore, turn to-day to another basis of classification, which, while it presents many imperfections, is for the present the more practical one, viz., the *clinical* basis.

On this basis, the boundary-line forms the line of demarcation between functional nervous disease and insanity. While it is

sincerely hoped that this boundary-line will in the future be eliminated, except for medico-legal purposes, and, as I advocated in an earlier paper, that it will no longer form a barrier in the treatment of these diseases as at present, still, for another generation at least, it must exist and will meanwhile serve a useful end. If we regard the boundary-line of insanity as indicating a more or less advanced stage of functional nervous disease, we will, I think, have a practical basis on which to proceed.

I would now desire to direct your attention to a modest beginning which has been made in the Toronto General Hospital, where neuropathic wards were established now nearly two years ago. A building which was semi-detached from the hospital, and had been formerly the residence of the medical superintendent, was kindly offered by the trustees of the hospital, and the Ontario government made a grant sufficient to cover the alterations necessary. By this means, accommodation for twelve beds was provided—six for male and six for female patients. Two floors were thus occupied, and the beds so arranged that four on each floor were in a large ward, while the remaining four (two on each floor) were in separate wards, and were thus utilized for isolation. At first wire screens were placed on the outside of the windows, but later these were found unnecessary and an objection in regard to fire escapes, and they were discarded, the windows being fastened by a simple lock in doubtful cases. On each floor a room was fitted up with hydro-therapeutic apparatus, and these, with a diet kitchen on each floor, consumed all the available space in the main part of the building. I may add that the upper story was used as a dormitory for the nurses, and that in the basement a strong room was made for the *temporary* detention of a violent or dangerous patient, until he could be transferred to an asylum, which was done as speedily as possible. On the exterior of the building, two large open balconies were made on the south and east sides, thus allowing provision for plenty of fresh air and sunshine to the patients, who utilize them both in winter and summer with excellent results. While the general conformation of the building and its limited accommodation presented several defects which could not be overcome, still the broad-mindedness of the trustees in offering the building and in establishing a separate department in the hospital more than compensated for these defects, and I very willingly assumed charge of it at their request.

While the object of these wards was the *treatment* of acute nervous disease, it was soon found that a certain proportion of cases admitted did not belong to this category, and consequently they could only be admitted for observation. After being under observation for a sufficient length of time to determine the diagnosis, they were, if found insane, at once transferred to an asylum

or taken away by friends. These cases were not visibly insane when admitted, but had been referred to these wards simply as "nervous." They comprised such cases as dementia precox, often in an early stage, and a decision as to their diagnosis, with advice as to the steps to be taken in their treatment, probably averted a crime in at least two of the cases admitted at this early stage. Had these wards for the "nervous" not existed, it is altogether probable that a study of the symptoms would have been delayed until the commission of a crime betrayed insanity. The report of these wards for the past two years shows that 20 per cent. of the cases were, after observation, adjudged to be suffering from some form of insanity on admission, and thus not suitable for treatment.

As mentioned above, I will not detain you with a discussion in regard to the other functional nervous diseases admitted to these wards for treatment, such as hysteria, epilepsy, functional paralyses, etc., which did not exhibit any immediate tendency to the development of insanity. On turning, however, to those cases for which these wards were especially established, we find that 67 cases have been admitted to date suffering from acute psychasthenia. There is not included in this number those cases of neurasthenia in which *somatic* symptoms predominate, in which their disease might be termed "somatasthenia." I would, however, here mention the immense field which is open for study in the functional nervous disturbances of the thoracic and abdominal viscera, a field of study in which not medicine alone, but surgery as well, might claim its quota of the benefits.

I will not here enumerate the psychical symptoms of neurasthenia with which you are all so familiar, but I would like particularly to lay stress upon one fact, viz., that the progressive intensification of these same symptoms leads the patient to a more advanced stage of this same affection, which we then term insanity.

May I now mention a synopsis of the history of a patient who was under treatment last year, and whose symptoms fairly well represent the type of case admitted as acute psychasthenia?

She applied for admission about May 1, but as there was no vacancy she was obliged to wait. As she was very urgently in need of treatment, I feared she might become insane before a vacancy occurred. She came several times to the hospital while awaiting admission, and on each visit her symptoms were more pronounced, and my anxiety about her mental condition greater. When the vacancy finally occurred, on May 18, she was very near the boundary-line of insanity. The history is as follows:

M. M., female, age 46, admitted May 18, 1907. Discharged August 24, 1907.

Family History.—Father living and well, 87 years of age;

not nervous; a farmer, and has always enjoyed the best of health. Mother dead; paralysis; 68 years. Was of a very nervous disposition, as were also five sisters; otherwise negative.

Personal History.—Occupation, housekeeping; no children; no miscarriages. Began to menstruate at about fourteen; always regular, and never suffered very much pain at her periods. As a child, says she was not of a nervous disposition. Never had chorea or other nervous trouble. Says she was quite bright at school, but never applied herself closely to her studies. Always took a great deal of outdoor exercise. Is a farmer's wife. Married at 26. Says she has never worked hard; always has had a comparatively easy time.

Previous Illness.—Had influenza a number of times; otherwise quite healthy till present trouble developed.

Present Illness.—Patient says it began about one year ago, and she attributes it wholly to the fact that her husband was taken seriously ill with paralysis, and patient worried very much, thinking that he would not get better, as he was confined to his bed for about six months. Patient says she became exhausted by worrying and by the work in attending to her husband. The first symptom to make its appearance was weariness. Patient says she felt tired each morning on arising, and even though she rested during the day she still felt tired. Then insomnia developed. She began to worry about any small matter, and felt that she was surrounded by a multitude of troubles which she was unable to overcome. She frequently became depressed, and finally gave up all hopes of getting better. Patient became irritable, petulant and emotional—any small matter that called for mental exertion caused her temper to give way. She began to feel that she was not capable of performing the duties which she was called upon to perform. She says she misconstrued remarks made by others, and felt that she was being made fun of when she heard anyone laughing or talking. Complains of feeling of constriction about the head. Complains that she is indifferent and lacks interest in anything she is doing; cannot concentrate her thoughts, and she is never surprised at anything, no matter how unexpected it may be. She takes everything as a matter of course—has become listless. Feels restless and has a desire to be on the move. Cannot content herself with being quiet, and feels the want of some outlet for her feelings. She has often felt that she is a burden to herself and her people, and that she would sooner be dead.

Physical Examination.—Negative.

The ward notes, after recording various ups and downs, read as follows on July 27:

Has slept very well during the last week, with exception of the

last two nights. She is brighter and looks better than she did a week ago. Has gained 3¾ pounds this week.

August 2. Patient doing well. Gained 2¼ pounds this week.

August 8. Patient eats and sleeps well, and is very cheerful.

August 14. Patient cheerful and sleeping well. Gain in weight equals 2½ pounds last week.

August 24. Patient sleeps well, eats well and is bright. Wants to go home to her husband. Discharged. "Recovered." Duration of treatment, 3 months and 6 days.

This patient was doing her household work and nursing her husband, who was still partially paralyzed, when last heard from, two months after leaving hospital.

In regard to this history, I may say that while it is at all times difficult to express on paper the degree of intensity of any feelings, I think sufficient has been written to show that a progressive intensification of the symptoms occurred from the beginning, when there was simply undue weariness with loss of sleep and increased emotivity, up to the date of her admission, when her listlessness and depression became so marked that she gave up all hope of getting better, and felt she would sooner be dead. She was then evidently on the borderland, and any further intensification of her symptoms would have resulted either in self-destruction or an attack of insanity.

Of the results of treatment in the 67 cases above mentioned, 22 were discharged recovered; 36 improved, and 9 were unimproved by treatment and became insane. Hence, in 85 per cent of these cases admitted, the immediate danger of insanity was averted, a result which can, without difficulty, be reduplicated under similar circumstances in any general hospital when the cases come under treatment sufficiently early. No accident has occurred since the inception of these wards; there is no red tape in regard to admission; no difficulty in regard to detention, and, finally, no stigma from being treated with the insane, which the laity so much dread. Again, and perhaps most important of all, clinical instruction has been given in these wards during the past winter. The house staff, the students and the nurses have all referred in warm terms to the value of their experience from the observation and study of these cases.

There now remains one other point to which I would like to direct your attention, and this is in regard to a suggestion which has been made to treat these cases in a psychiatric hospital. The attempt to do this would, I firmly believe, be a grievous mistake. Every alienist is well aware of the difficulty in getting the acute cases of insanity under treatment at an early date, owing to the prejudice of friends to have a near relative treated among the

insane. How much greater then would be the prejudice when the patient was as yet suffering from nervous disease only! Practical experience has demonstrated in the wards of the Toronto General Hospital that the presence for a short time only of a patient visibly insane has so disturbed the other patients in the same ward that the ill effects were felt for days, even after the removal of the patient from the building. Again, the influence of suggestion, induced by the presence of the insane in the same building, is most harmful, in view of the importance of psychic treatment of these cases, many of whom fear they will themselves become insane, and this fear would thus be kept constantly before them. If further practical results are desired, I may mention the last report of that most excellent department of the Albany Hospital, Pavilion F. The fifth report of this pavilion shows that only 2 per cent. of the total cases admitted suffered from neurasthenia. Any attempt, therefore, to treat functional nervous disease in the same department of a hospital as the insane, will, I am assured, result practically in failure, and the nervous patients will return to the general medical wards of the hospital as of yore.

In conclusion, I may state that as a result of more than fifteen years of experience, devoted exclusively to the study (under exceptionally favorable conditions) of diseases of the nervous system, and of which these functional cases formed a large quota, I am convinced that for the true prophylaxis of acute insanity we must look to the general hospital, and that this result will be best accomplished here by the formation of neuropathic wards, especially equipped for the purpose.

CLINICAL LECTURE—LOBAR PNEUMONIA.

BY JOHN V. SHOEMAKER, M.D., LL.D.

Professor of Materia Medica, Therapeutics, Clinical Medicine, and Diseases of the Skin in the Medico Chirurgical College and Hospital, Philadelphia.

Gentlemen,—The subject for consideration this morning is a case of typical pneumonia. The patient is a young man aged 27 years, occupation, engineer.

His previous personal history and the family history are negative and possess no clinical value as regards his present trouble.

Present illness: Dates back to the 8th of this month, when he was exposed to a cold, damp night air watching a parade (Founders' Week). On returning to his home he felt chilly and before retiring he took six grains of quinine sulphate and a hot lemonade. The next morning he went to work, where he is exposed to the weather and occasionally high temperature in front of furnaces. On the 9th, 10th, and 11th he felt fairly well, except that he had a cold in the head involving his nose and throat, for which condition he took from two to six grains of quinine and a hot lemonade every evening to break up the cold. On the 12th he felt worse, had a slight chill and headache. That evening before retiring he took more quinine and hot lemonade. On the 13th and 14th he felt better, but kept up his treatment of quinine and hot lemonade. On the 15th he had another chill, followed by headache and prostration. That evening he took ten grains of quinine and more hot lemonade. The following morning, the 16th, he felt better and, as usual, went to work. However, in the early part of the afternoon, he suddenly took a severe chill, lasting over an hour. This was followed by headache, malaise, prostration, and high fever. He left his work and went home at about two o'clock. That afternoon the following physical signs were in evidence:

He was in bed, felt chilly, the face was flushed, wearing an anxious expression; skin being dry and hot. The pulse was 104, full and bounding; temperature 102 2-5 deg. F., and respiration 28 per minute, and at the same time had a short bronchial cough with no expectoration.

The patient complained of dyspnea, with a sense of oppression in front of the chest, and a sense of pain in the loins. Examination of the lungs revealed on percussion impaired resonance posteriorly over the right lower lobe, and crepitant rales could be discerned at the end of inspiration only by the aid of the stethoscope. The following morning, however, on palpation over the right lower lobe there was increased vocal fremitus; percussion gave a distinct, dull, high-pitched note of short duration, and

auscultation revealed typical tubal breathing. Dyspnea was more marked; the cough intensified with expectorations of blood-streaked mucus, and over the normal part of the lung there was exaggerated vesicular breathing.

His temperature was 104 1-5 deg. F., respiration 32, and the pulse 118 per minute, full and bounding in character. Auscultation of the heart revealed marked accentuation of the second pulmonic sound, which is an index of the marked resistance offered to the circulation through the consolidated area of the right lung. No other or organic lesions could be elicited.

Three days after the onset, the expectoration was of the typical prune-juice color, and very tenacious.

Habits: He smokes cigarettes excessively, and also uses alcoholic beverages to the extent of intoxication.

Urinalysis—Color, amber. Sediment, negative. Specific gravity, 1025.

Sputum Examination—Leucocytes, a few. Epithelial, a few. Tubercle bacilli, negative.

Urinalysis—Odor, aromatic. Reaction, acid. Albumin, small ring. Glucose, negative. Diazo Reaction, positive. Casts, numerous, broad, granular, fatty casts and a few hyaline casts. Cylindroids, a few. Leucocytes, a few; Urates, present. Chlorides, absent.

Sputum Examination—Diplococcus Pneumonia, present. Parasites, streptococci.

Diagnosis—The diagnosis of lobar pneumonia was based first upon the sudden chill with rigor, pain across the chest, the crepitant rale at the end of inspiration, and the high fever with a full, bounding pulse. On the second visit the suspicion was corroborated by the tubal breathing, consolidation, high, continuous fever, accentuation of the second pulmonic sound, cough, expectoration of tenacious mucus tinged with blood, increased respiration and pain on taking a deep inspiration. On the third day the diagnosis was absolutely confirmed by the presence of the Diplococcus Pneumonia.

Differential Diagnosis—Lobar pneumonia may sometimes be mistaken for acute pleurisy with effusion, acute pneumonic phthisis, broncho-pneumonia and acute pleurisy. For your convenience I wish to briefly give you a tabulated differential diagnosis of the diseases mentioned:

Differential Diagnosis.

Lobar Pneumonia—

(1) Onset acute, rigor lasting 1 hour. (2) Expectoration viscid and rust-colored. Cough is more marked. (3) Herpes common. (4) Sputum contains pneumococcus. (5) Fever of

continued type, terminating by crisis. (6) No distention of thorax. (7) Yields a few drops of thick blood on aspiration. (8) Upon percussion dulness is less complete and there is less resistance. (9) Face flushed and mahogany color. (10) No displacement of neighboring organs. (11) Increased vocal fremitus and vocal resonance.

Pleurisy with Effusion—

(1) Onset marked by chilliness, persisting for a few days. (2) No expectoration; cough irritating. (3) Herpes are absent. (4) Sputum does not contain pneumococcus. (5) Fever of continuous type, declining by lysis. (6) Thorax is distended. (7) Yields serum on aspiration. (8) Upon percussion there is flatness with great resistance to the pleximeter finger. (9) Face pale and anxious. (10) Displacement of neighboring organs. (11) Diminished vocal fremitus and vocal resonance.

Lobar Pneumonia—

(1) Begins with a chill and pain in side. (2) Fever of continued type terminating by crisis. (3) Sudden with severe rigor and rapid rise of temperature. (4) Sputum contains pneumococci. (5) Herpes common. (6) Sputum is viscid, sticky and rusty-colored. (7) No severe sweating until crisis. (8) Emaciation not much. (9) Signs of consolidation followed by resolution. (10) Prognosis guarded. (11) Usually limited to one lobe or lower part of lung.

Acute Pneumonic Phthisis—

(1) Begins as a bronchitis and with a chilly sensation. (2) Fever of remittent type often becoming intermittent, without crisis. (3) Generally more gradual; rarely severe rigor; often follows severe cold. (4) Sputum contains tubercle bacilli. (5) Herpes less so. (6) Sputum is more purulent and copious and may also be blood-tinged. (7) Profuse night sweats. (8) Emaciation well marked. (9) Signs of consolidation followed by cavity formation, with large, gurgling rales at apex. (10) Prognosis fatal. (11) Usually extends from the base to apex and affects both lungs.

Lobar Pneumonia—

(1) Begins with a well-marked chill. (2) Presence of diplococcus pneumonia. (3) Onset abrupt. (4) Percussion yields marked dulness and it is unilateral. (5) Affects one lung. (6) Sputum rusty or prune-juice. (7) Terminates by crisis. (8) Dyspnea less marked.

Broncho-Pneumonia—

(1) Begins as a severe bronchitis. (2) Presence of pathogenic organisms (Streptococci). (3) Onset gradual. (4) Dulness less

marked and bilateral. (5) Affects both lungs. (6) Sputum glairy, tenacious and in adults may be blood-tinged. (7) Does not terminate by crisis. (8) Dyspnea marked.

Lobar Pneumonia—

(1) Onset sudden with chill. (2) Countenance congested and flushed. (3) Expectoration rusty. (4) Percussion yields marked dulness. (5) Bronchial voice and breathing. (6) Temperature higher (104-106 deg. F.). (7) At the end of inspiration a crepitant rale is heard.

Acute Pleurisy—

(1) Onset marked by pain in side. (2) Countenance pale and anxious. (3) Expectoration frothy and mucous. (4) Percussion yields slight dulness. (5) Feeble voice and breathing. (6) Temperature lower (102-104 deg. F.). (7) Inspiration and expiration yield superficial friction rales.

Pathology.

The lesions most frequently involve the lower lobe of the right lung and usually the whole of one lobe. The apices alone are least frequently involved.

There are three distinct stages exhibited by the lung in croupous or lobar pneumonia: (1) Congestion or Engorgement. (2) Red Hepatization. (3) Gray Hepatization.

The stage of congestion or engorgement is characterized by a dark area, red in color, and heavier than normal lung. A bloody liquid exudes when the lung is cut.

Microscopically the air-vesicles contain red blood cells and occasional leukocytes. The capillaries are greatly distended and turgid.

In the stage of red hepatization the diseased part of the lung becomes solidified, hence liver-like in consistency. The lung becomes harder and very much heavier than the normal. It is reddish-brown in color and the surface presents a granular appearance, due to minute plugs of fibrin, which fill the air-vesicles. The pleura is generally all covered with a fibrinous exudation.

Under the microscope the alveoli are distended with a network of fibrin, the meshes of which are filled with red blood corpuscles, pus cells and degenerated alveolar epithelium. The vesicular walls are found to be infiltrated with lymphoid cells.

The lung in the stage of gray hepatization is more friable than that in the preceding stages, and presents a grayish-white coloration. The granulations are less distinct and there is a fatty and granular degeneration of the cells of the exudate.

Histologically the air-cells are filled with leukocytes, the fibrin and other factors having disappeared, and the blood-vessels are

now the least prominent. The cellular elements of the exudate begin to degenerate and to soften and liquefy. This is known as the stage of resolution. The products of the vesicles are then partly expectorated, but most of it is absorbed. Then the lung is eventually restored to its previous condition.

However, if recovery does not take place, it is due to the purulent material which fills the lung tissue and impairs the nutrition of the lungs and finally terminates in an abscess.

There are also changes which take place in the viscera. The right chambers of the heart are distended with a firm and tough clot, caused by the clotting of the blood, due to the increase of its fibrin elements. The heart muscle becomes flabby and endocarditis and pericarditis may take place. The spleen is often enlarged and softened and the liver becomes hyperemic. The renal cells of the kidneys suffer parenchymatous degeneration.

Etiology.

The commonly regarded cause of lobar pneumonia is the micrococcus lanceolatus of Fränkel. This organism occurs in pairs and is pointed at one end, hence the term lanceolatus. This coccus has been found by Netter in the buccal secretion of twenty per cent. of the patients suffering with lobar pneumonia. The organism is sometimes found in healthy individuals and is present in the nose, eustachian tubes, larynx and saliva. It thrives best on agar-agar and bouillon, but not on potato between the temperatures of 24 deg. C. and 42 deg. C. The micrococcus lanceolatus has been found in eighty per cent. of the cases of lobar pneumonia. It has also been found in the pus of cerebro-spinal meningitis, endocardial vegetations, pericarditis, pleuritis, blood spleen and other affections.

The micrococcus gains entrance to the body through the respiratory passages and in this manner produces the disturbances and finally the disease. However, it is not always responsible for the complications and modifications which arise in ordinary lobar pneumonia. This is due to other specific organisms (streptococci and staphylococci, etc.), which may accompany the coccus and so be responsible for the secondary infection. It has been observed that the epidemic form of pneumonia has been spread by contagion, hence the disease is considered as an infectious disease, due to the action of a specific organism. Pneumonia is most common at all periods of life and the males are more commonly attacked than the females. Many outbreaks of this disease are attributed to dampness, traumatism, unhygienic surroundings and defects in the local sanitary conditions. A cold is often followed by pneumonia. This is explained as due to the fact that the mucous membrane of the respiratory passages is disturbed and as a conse-

quence its vitality is lowered, thus preparing the system for infection with the pneumococcus. Other predisposing causes are those habits which tend to debilitate and depress the nervous system, namely, alcoholism, Bright's disease, diabetes, carcinoma, etc.

Treatment.

In the treatment of a case of lobar pneumonia, the hygienic treatment is quite as essential as medicatio. The patient should occupy a well-ventilated room not exceeding 68 deg. F. When the patient's temperature exceeds 103 deg. F., the body should be sponged with cold water, followed by a good alcohol "rub." Also a cleansing bath should be given daily, which will assist elimination and reduce abnormal temperature.

The diet should be liquid and nitrogenous. This patient is fed every two hours, at which time he receives eight ounces of milk with a little lime water, alternating with the same quantity of albumen water flavored with either orange or lemon; an ounce of freshly extracted beef juice may be given three times daily at the regular feeding hours. However, as the patient convalesces, his diet should be increased.

Medicinally, at the onset, it is well to give a good calomel purge, followed by a saline. Also the preparation should be selected that will enhance the action of the skin, serve as a diaphoretic, antipyretic, and as an anodyne. To produce this effect upon the patient, we give him a capsule containing:

R	Strychninae sulphatis	gr 1-40
	Pulveris ipecacuanhae et opii	gr iiss
	Quininae bisulphatis	gr iii
	Phenylis salicylatis.....	gr ii

Misce. Fiat capsula No. 1.
Signa. One such capsule every three hours.

This capsule produced marked diaphoresis, lowered the temperature from 104 3-5 deg. to 102 3-5 deg. in twenty-four hours. On the third day, when the cough became marked, the mucus was tenacious, and the urine contained albumen, we decided that an expectorant and diuretic mixture be given to assist in liquefying the mucus. To attain this end the mixture was prescribed containing:

R	Potassii citratis.....	gr xv
	Spiritis aetheris nitrosi	
	Liquoris ammonii acetatis .....aa	f ʒ i

Misce. Signa. One such dose to be taken every three hours in a wine glass of water.

Of course stimulation with strychnine gr. 1-40 hypodermically every three hours was continued.

REPORT OF A CASE OF STENOSIS OF THE PYLORUS IN AN INFANT, WITH RECOVERY.*

BY HENRY T. MACHELL, M.D., TORONTO.

THESE cases occur so infrequently that I feel justified in reporting this one to the Association.

Up to the present time none have been reported in Canada, though my confrères at the Hospital for Sick Children, Toronto, and myself, have been on the lookout for such cases for a few years past, and, especially so, since the meeting of the British Medical Association in Toronto in 1906.

On the 16th January, 1908, I was asked to see Baby F., and obtained the following history from the mother, who had been married 17 years without ever having been pregnant before. The baby, male, was born with forceps on the 22nd Oct., 1907, weight 9½ lbs., apparently healthy. Three or four unsuccessful attempts were made to nurse the baby during the fortnight at the hospital. (The mother thinks the free use of camphorated oil to the engorged breasts was the cause of his not nursing. The first time he made any attempt at nursing was on the 14th day, immediately after washing the breasts to remove all smell and taste of the camphorated oil).

Barley water was given for a couple of days after birth, and vomiting followed. Then "milk and water" for 24 hours, more pronounced vomiting—then barley water again, till baby was a fortnight old.

From the first, vomiting occurred in from ½ to ¾ of an hour after food, whether that food was barley water, "milk and water," or nurse. The vomit consisted of curds, mucus, gas, and watery material, all sour. The vomiting did not seem painful or distressing to baby. Occasionally the vomiting was sudden, explosive, projectile, the vomited material being shot one, two, or three feet. Frequently so large an amount was "pumped out" that it seemed to the mother as if two or three meals had accumulated and been expelled at one time. The routine vomiting dated from the first day, the explosive kind from about the end of the first month. For the past month the latter variety averaged twice a day with an increasing amount of mucus.

Stools: In the first two and a half days no stool, and in the first five days only a "black stain." With several doses of oil, the bowels scarcely moved in the first fourteen days, and in the following two and a half months, never without assistance. On one

* Read at a meeting of the Ontario Medical Association held in Hamilton, June, 1908.

occasion, even with oil and enemata there was no stool in two and a half days. Latterly, the baby was given an injection once daily, which produced a stool rather dry, greenish in color, odorless, not sour. The baby never had diarrhea.

Loss of weight: This has been persistent, but he has not been weighed since birth.

Loss of color: He is becoming paler daily.

Behavior: Latterly he has been very quiet, and has not smiled or cried, but has been sad, dull, listless and apathetic.

He has been under the care of three different physicians.

Examination: The baby looked thin, emaciated, pale-faced, hollowed-eyed with shrunken temples, and transparent, bloodless ears. He was lying in a semi-conscious state, expression sad and apathetic, rather than in pain, yet all his fingers were so tightly clenched as to blanch the skin over the knuckles. His legs were upon the abdomen, yet easily straightened. The lower part of the abdomen was flaccid, depressed, and dull on percussion, while the epigastrium was rounded, bulging, tympanitic, not tender to pressure; and the greater curvature of the stomach plainly visible, just above the umbilicus.

More noticeable perhaps, than the shrunken lower, or bulging upper half of the abdomen, was the plainly visible wave, which traversed the upper part of the epigastrium at intervals of thirty seconds. This wave appeared to have its origin just outside the left parasternal line, about one inch below the costal margin. It travelled diagonally across the epigastrium as far as the right nipple line, to a point half an inch above the level of the umbilicus. It was most visible at its origin, least so at its ending. The nodule-like mass or wave seemed about the size of a small almond where it arose, and ended in a fine wave as it sank or disappeared deep down among the intestines. The stomach was tympanitic on percussion, and so was the wave as it travelled across the epigastrium. The mother noticed me watching the wave passing and repassing, and said she had repeatedly seen it when the baby was stripped.

On deep palpation at the terminus of the wave a semi-solid or soft-solid or palpable point could be distinctly felt—always at the same spot—the point of intersection of the right nipple-line with a line running transversely about half an inch above the umbilicus. At times, the palpable point could be made out readily, at other times it had to be searched for. It was not hard, nodular, or gland-like, nor was it painful on deep pressure. In size, it seemed smaller than the terminal phalanx of a small little finger.

The anterior fontanelle was depressed, and one inch in transverse diameter. The rachitic rosary could be felt and seen. With

the exception of head-sweating and commencing bosses over the frontals, no other evidences of rickets could be made out.

Diagnosis: The diagnosis of simple regurgitation, gastric catarrh, vomiting and constipation due to faulty feeding, and marasmus, could all be excluded by the history of the case. Persistent vomiting, practically from birth, gastric dilatation, visible gastric peristalsis, palpable pyloric thickening, constipation, absence of intestinal colic, and steady loss of weight, taken collectively, point to narrowing of the lower opening of the stomach. The two classical symptoms mentioned by Cautley and Still, of London, were present, viz., (1) the visible gastric wave noticed by the mother, and also by the nurse, before I saw the case, and repeatedly by myself; and (2) the palpable pylorus, felt most easily when the gastric wave was most noticeable. There was no difficulty in sinking the fingers well down in the abdomen as there was neither tenderness nor intestinal distension to interfere with palpation. As to the pyloric obstruction there could be no doubt, but whether it was due to spasm or hypertrophy could not be so positively determined. The clinical history and physical examination favored the latter.

Prognosis: The mother was told that an operation might have to be performed if no improvement occurred within a few days. The prognosis was unfavorable either with dietetic and medicinal, or with operative treatment.

Treatment: Considering the baby's apathy, etc., milder methods seemed safer than operation, and, therefore, calomel and magnesia were given. They brought away hard, dry, curdy masses. This was repeated next day with similar result.

With the view of flushing out the stomach and preparing it for the next meal, an ounce of boiled water was ordered one hour before each nursing. The nurse was diluted by half an ounce of water given just prior to each nursing. To still further reduce the proteid percentage in the mother's milk, the mother was ordered: (*a*) to walk daily to the point of tiring; (*b*) to reduce to a minimum the meat consumption; and (*c*) to lead a quiet, easy-going life without flurry or excitement.

The baby was to be weighed daily.

The bowels were to be moved at least twice daily by enemata, if effectual; by laxatives, if necessary. The stomach-tube was used on the 17th January, and large quantities of glairy mucus and numerous soft, fluffy, milk-curds were washed out. This was repeated half a dozen times during the first week after I saw the case.

The medicinal treatment was practically limited to bismuth and cocaine in gr. 1-100 doses.

After the first week there were no explosive vomitings, though

the baby continued, for a couple of months, to " bring up," within ten minutes after nursing, a few mouthfuls of watery whey-like fluid. For the past month no vomiting worth mentioning has occurred, though a little gas is yet belched up occasionally after nursing, and with it frequently a trace of milk.

After the first month there was a steady and almost daily increase in weight. The accompanying chart shows a gain from five pounds, nine ounces, to eleven pounds, in four months.

Remarks: The first day I saw the baby I had no doubt in my own mind that I had to do with a case of hypertrophic stenosis. I could not conceive of spasm being so persistent as to last three months, the age of the baby, without occasional relaxation of the spasm. Moreover, spasmodic cases are usually milder, with absence of vomiting for a few meals, or a few days. This absence never took place for even one meal.

Was it congenital? Apparently so. Vomiting dated from the first day of life, and routine vomiting after food, from the time he was three days old. This is suggestive of a congenital condition.

It may be argued, however, that the first food (barley water) was the means of setting up a functional disturbance of the stomach, which ended in spasm of the pylorus, and that as the pylorus contracted the mucous membrane was thrown into longitudinal folds which blocked the canal. In time, according to Still, the overworked pyloric muscle ends in hypertrophy, which is merely a secondary phenomenon, the result of spasm.

As long ago as 1898, when little or nothing was known of this condition, Cautley asserted that hypertrophic cases *are* congenital. He holds now after ten years' experience in which he has had sixteen of these cases, that " there is no reliable proof that spasm of the pylorus produces hypertrophy."

Having in mind the pathological specimens exhibited by him at the British Medical Association, in Toronto, I can hardly conceive of the hypertrophic variety improving, except, perhaps, temporarily, without operation. The history of his sixteen cases shows that of seven not operated on, all died. Of the nine operated on, six recovered. He says: " So far I have never seen a case, in which I was certain of the diagnosis, recover without operation."

Thus, these two men, both eminent in the metropolis of the Empire, hold opposite views in regard to the causation of pyloric stenosis. When I first saw the case, I felt pretty certain it was one of congenital hypertrophy, and was surprised at improvement occurring at all. It is equally surprising that improvement took place under such simple treatment.

On account of the improvement, and because the baby recovered, I must conclude that the stenosis was spasmodic.

Selected Articles.

PERSONAL EXPERIENCES IN THE SURGERY OF SIMPLE TYPES OF GOITRE.

BY JONATHAN M. WAINWRIGHT, M.D.

Surgeon-in-Chief of the Moses Taylor Hospitals, Buffalo, N. Y., and Scranton, Pa.

WHEN some surgeons are reporting thyroid operations by the hundreds or thousands, it seems a little premature to make a report based on only eighteen cases. However, I have always felt that, while statistics based on an enormous number of operations are very interesting, still they may not be of as much value to the general surgeon as the experiences of other general surgeons who are doing a smaller number of cases. Summarizing the data from the present eighteen cases, it is seen that thirteen of the patients operated on were females and five were males. Concerning the etiology of these cases, it is interesting to note that ten of the eighteen cases occurred in people born in Wales or people of Welsh parentage. It would seem, therefore, that the Welsh are prone to this disease, although these figures cannot be accepted as an absolute indication, for a large proportion of our general patients are Welsh.

Concerning heredity in our comparatively few cases, two were mother and son, and two were mother and daughter. Another patient had a mother who had a goitre, but the mother was not operated on. These cases of apparent heredity were all in Welsh people. Divided according to their pathology, seven of the present cases were simple cysts, two were adenoma with cysts, seven were enlargements of the parenchymatous type, one was of the exopthalmic type, and one was a carcinoma.

As to the extent of the operation, four cases consisted in simply shelling out the cyst, four consisted in removal of the one side, in six one side and the isthmus were removed, and in four a subcomplete operation was done. By the subcomplete operation we mean removal of the entire gland with the exception of a small piece left in to perform the ordinary function of thyroid secretion. Concerning the portion of the gland involved, the right side was involved alone in seven, and the left side alone in four cases. In six both sides were involved, and in one case the isthmus alone

was occupied by a large cyst. In the latter case the cyst extended about one inch below the sternal notch. The remaining tumors lay entirely in the neck.

As to the operative mortality, all the patients recovered from the operation, and seventeen out of the eighteen are alive and well to-day. One (Case 10) died of a very rapid recurrence of malignant goitre five weeks after operation. As to the accidents of operation, there have been none due to the anesthetic, which was ether in all cases. One patient bled so freely during operation that an intravenous infusion was considered necessary on the table, and another who was apparently sent to the ward in good condition began to bleed profusely about three-quarters of an hour after the operation. This patient was at once returned to the operating room and found blanched and nearly exsanguinated. The dressings were soaked with blood and the neck was distended with nearly a pint of clotted blood. The wound was hurriedly torn open and the blood wiped away, but at this time the bleeding had entirely stopped, and after simple packing of the wound the patient made an uninterrupted recovery. The postoperative bleeding is always an event to be dreaded in these cases, and it seems that it has been the general experience that when the wounds are reopened the bleeding points have stopped.

We have been fortunate in obtaining primary union in all of the cases. The large majority of patients run a temperature of 101 deg. to 103 deg. for four or five days after the operation. This postoperative incident is mentioned by a number of surgeons and its exact cause is somewhat in doubt. It may be due to excessive absorption of thyroid secretion, or to some unknown nervous influences due to interference with the thyroid itself. In no case have we noted any symptoms of tetany, although it is only within the past few years that we have taken special care to leave parathyroid glands intact.

Of the four cases of subcomplete removal, three patients showed no after-symptoms referable to thyroid insufficiency. One did develop symptoms of myxedema a few weeks after the operation. She was given thyroid extract for two weeks, at the end of which time the symptoms had disappeared and did not recur after stopping the thyroid feeding. We presume in this case that the portion of the gland left in was not able at once to supply the necessary amount of secretion, but that after the two weeks' thyroid feeding it had become so adjusted as to take care of the normal needs of the body. This patient was perfectly well three years after operation.

As to late results, four cases are so recent that they cannot be considered in this connection. There are fourteen patients who were operated on more than six months ago, and of these fourteen

two could not be traced. One died five weeks later of a malignant recurrence. Of those remaining, eleven were seen from six months to four years after operation, and all were well and engaged in their usual occupation with no symptoms whatever. In eight there was no enlargement of the remaining portion of the gland to be felt, and in three there was little enlargement of the remaining portion of the gland, but in all cases the enlargement was slight and did not cause any trouble whatever.

One cannot, of course, draw very definite conclusions from eighteen cases. However, every surgeon has to adopt certain working ideas from his own experiences from month to month, and some of those that we have been led to make may be of interest.

1. *The question of anesthesia.* There has always been a good deal of dread of general anesthesia in goitre cases, whether they are of the simple or exophthalmic type. In our own experience this fear has not been well founded, as all of our cases have done well under ether anesthesia and none presented any unusual difficulties. This, too, notwithstanding the fact that ether has always been administered by internes who have been giving ether in some cases only a few weeks.

At the present time we always use the drop method, which is additionally useful in these cases as it does not interfere with the asepsis of the operative field. The face is tightly wrapped with a few layers of sterile or bichloride gauze, and over this is put an ordinary chloroform mask, which is again covered with sterile gauze. The ether can then be dropped on by the anesthetist with sterile gloves and there is no danger from infection, either from the etherizer or the patient's mouth. We always give atropine before ether in these cases, partly for its effect in reducing the secretion in the mouth and throat, but more especially on account of the influence which Crile has shown that it exerts in blunting the pneumogastric nerve, in case this nerve is interfered with during operation.

2. *Safety of operation.* While formerly we approached these cases with considerable dread, our continued satisfactory experiences have gradually brought us to feel that under ordinary circumstances operations for the simple types of goitre present no more danger than those for hernia or many other operations of choice. Perhaps the strongest argument for the safety of the operation that we can make is simply the record of eighteen cases with eighteen operative recoveries in such unskilful hands as ours.

3. *The question of surgical treatment and the indications for operation.* From what has already been said, it will be apparent that we feel that the simple type of goitre is nearly always a surgical disease. I believe that we have as yet no other treatment

which permanently influences even the parenchymatous types, and certainly there is none which has any effect on the cystic, adenomatous, or malignant types. It is true that, in a few cases of young women, the enlargement of the thyroid may subside after a time, and unless it causes inconvenience it need not be interfered with. We believe that all cases giving symptoms of pressure and all cases showing progressive enlargement should be operated on at once.

4. *As to the amount of gland to be removed.* In many cysts it will be sufficient simply to shell them out bluntly. In parenchymatous types we believe that a removal of the larger half and the isthmus at least should be done. In one or two cases we have seen a slight enlargement follow operation in the remaining portion, and if the isthmus enlarges in this way it may again give pressure symptoms. Of course, the entire gland must never be removed. Crile's rule of leaving behind an amount of thyroid tissue about equal to the size of the normal gland is the best one to follow.

Abstract of Cases.

Case 1.—Cyst of thyroid. J. B., English, aged forty-nine, was a miner. Family history was negative. Two years ago he noticed a small tumor in right side of neck; never had been painful and never caused trouble with breathing or swallowing. General condition was good.

Operation September 21, 1902, under ether, showed tumor to be a simple cyst in the substance of right half of thyroid gland. It was shelled out by blunt dissection, leaving normal portions of gland intact.

Pathology: Simple cyst one and a half inches in diameter, containing thick, glairy fluid.

Course: Uneventful recovery; primary union. When seen four years later there was no trouble whatever in neck; no thickening of remaining portion of gland, and scar barely visible.

Case 2.—Parenchymatous goitre. Mrs. M. M. was a seamstress. Family history was negative. She had three children. Nine years ago she noticed a swelling in right side of neck. Six months ago the other side began to swell and she began to have difficulty in swallowing and breathing. These symptoms and the tumor gradually increased. Five years ago she was treated with iodine at the University of Pennsylvania, and three months ago she was treated with iodine externally and iodide of potash internally at the M. T. H. Dispensary. There were no signs of Graves's disease.

Operation January 24, 1902, under ether: Excision of right half of gland.

Course: Uneventful recovery; primary union.

Pathology: Microscope showed simple parenchymatous goitre. Mass removed was four by three by three inches. Seen fifteen months later; no symptoms were referable to thyroid gland. There was a slight enlargement in the region of the isthmus, but this caused no trouble.

Case 3.—Cyst of thyroid. Mrs. W., married, aged forty-five. American, housewife, for several years had had a tumor in the right side of the neck, which had gradually increased in size until it caused some pressure on trachea. Swelling involving right half of thyroid gland was about the size of a hen's egg.

Operation May 1, 1903, under ether: Excision of entire right half of gland.

Course: Uneventful recovery; primary union.

Pathology: Tumor removed was spherical in shape and about three inches in diameter. The lower portion contained two cysts about one and a half inches in diameter filled with thick, grumous blood. The remainder of the enlargement was parenchymatous in type. Patient was operated on for gall-stones three years later. When seen again five years later general condition was good. There was slight increase in the left half of the gland, which was especially marked over the trachea and caused slight pressure. Patient refused to have portion over trachea removed.

Case 4.—Cyst of thyroid. A. R., aged eighteen, American, was a laborer. Family history was negative. Two months previously swelling in the side of the neck was first noticed. When first seen it was about the size of a marble, but had grown rather rapidly. It was slightly painful and interfered slightly with breathing and swallowing. If he pressed on the tumor he could not swallow at all.

Operation May 7, 1903, under ether, showed the mass to be a cystic tumor in right half of thyroid gland. This was shelled out by blunt dissection.

Course: Uneventful recovery; primary union.

Pathology: Simple cyst one and a half inches in diameter was filled with clear, glairy fluid. Patient has not been traced since operation.

Case 5.—Parenchymatous goitre. E. W., aged seventeen, single, was a seamstress. Parents were Welsh. Mother has had a very large goitre since childhood (see Case 9). Patient's growth began four years previously. Had shown considerable variation in size, sometimes interfering with swallowing, but never with respiration.

Operation May 17, 1904, under ether: Excision of right half of gland.

Course: Uneventful recovery; primary union.

Pathology: Portion of gland removed is about three inches in diameter and of parenchymatous type. When seen four years later patient was well in every way; no enlargement of remaining portion of the gland, and no symptoms referable to thyroid.

Case 6.—Parenchymatous goitre. W. S., English, aged seventeen, single, was a mine laborer. Mother had a goitre. Five years previously the patient noticed a swelling in the neck. This had gradually increased in size and for the past two years had caused considerable difficulty in breathing.

Operation May 11, 1905, showed both sides of gland considerably enlarged, more so on left side. The entire left half of gland was cut away, and it was then seen that a portion of the enlarged right half had grown over the median line and was pressing on the trachea. This portion was separated by blunt dissection from the remainder of the right half and removed.

Course: Uneventful recovery; primary union. Patient seen one year later. The swelling on the right side was slightly larger than at the time of operation, but caused no trouble. He was working regularly in the mines.

Case 7.—Parenchymatous goitre. V. V., aged thirteen, single, was an American. Family history was negative. Had typhoid fever three years and diphtheria five years previously. Her mother dated the swelling in her throat from the time she had diphtheria, and said she had never been well since. She had had frequent colds and sore throat. She had had a great deal of dyspnea, and her mother had at times noticed bulging of the eyes and tremor of the hands. She had had frequent headaches and numerous convulsions in the last five years; sometimes these had come as often as once a week.

Operation August 15, 1904, under ether: The right half of gland was removed.

Course: Uneventful recovery; primary union.

Pathology: Tumor was about four by two by three inches and of parenchymatous type. There were no cysts.

Patient returned to hospital in December, 1905. She said that since her previous discharge she had been relieved of her constitutional symptoms, but there had been a gradual growth of the gland on the unoperated side. Examination at that time showed the old scar in good condition, and there was no tumor on the right side of the neck. On the left side there was a tumor about six inches long, and having the typical characteristics of a parenchymatous goitre.

Second operation December 30, 1905, under ether: The entire left half of the gland was removed, with the exception of a portion about one-half inch in diameter near its median border.

This portion was most adherent to the surrounding structure, and it was considered it would get the best blood supply if left in.

Pathology: Tumor removed was six by three by four inches and weighed six ounces. There were no cysts, and on section it showed the typical gross appearance of the parenchymatous goitre. Microscopic examination showed a parenchymatous goitre.

Course: Discharged twenty-one days after operation; primary union in wound, and patient apparently well. She returned, however, in about one week and complained of headaches, weakness and drowsiness. She was given thyroid extract by mouth, and these symptoms entirely disappeared at the end of the week. Since that time she has been perfectly well without thyroid feeding. She was last seen three years after the second operation.

Case 8.—Adenoma and cyst of thyroid. Mrs. G D., aged twenty-six, married, Welsh, housewife, had an enlargement of the thyroid gland for a number of years, which had caused considerable trouble with swallowing.

Operation August 17, 1906, under ether: Right half of gland and isthmus removed.

Pathology: there was one cyst about one inch in diameter filled with thick, glairy fluid, and remaining portion of the right half was enlarged to about twice its normal size. Sections showed an adenomatous structure. The acini were very small and many did not contain any colloid at all, but were represented by very small tubes lined with epithelium which was much more cuboidal in shape than the normal thyroid tissue. There were also large areas of poorly-formed connective tissue which contained in its meshes many atrophic degenerated acini, very few of which contained colloid.

Course: Uneventful recovery; primary union. When seen twenty months later patient was well; no symptoms referable to thyroid.

Case 9.—Adenoma and cyst of thyroid. Mrs. J. W., aged fifty-two, Welsh, housewife, said she had had a tumor in the neck ever since she could remember. This had grown larger with each pregnancy, but had been about the same size for the past four years. It caused considerable trouble with breathing. A daughter of the patient also had a goitre (see Case 5). Patient had never had any exophthalmic symptoms.

Operation July 21, 1906, under ether: Right half of isthmus and the large lobulated portion of the left half which was pressing on the trachea were removed. Wound was apparently thoroughly dried and patient returned to ward in good condition. About three-quarters of an hour later word was sent back to the operating room that the patient was bleeding profusely. She was immediately brought back to the operating room with her face blanched

and pulse weak and rapid. She complained very much of air hunger and her bandages were soaked with blood. The wound was hurriedly opened without further anesthesia; the entire cavity in the neck was filled with clotted blood. This was rapidly wiped away, but no bleeding points could be found at that time. The cavity was tightly packed with plain gauze and the skin again sewed up except for a small portion for removal of the gauze. About 500 c.c. of salt solution was given intravenously at that time, and a similar amount given into the tissues under the breast. She was returned to the ward and made an uneventful recovery. She was discharged twenty days after the operation with the wound healed.

When seen eighteen months later there was slight enlargement of remaining portion of gland, but this was giving no trouble.

Pathology: The portion of the gland removed from right side was about five by two by three inches in diameter. The portion removed from the left side was spherical and measured about one and a half inches in diameter. The mass removed weighed six and one-fourth ounces after rupturing a few small cysts. On section the tumor resembled a typical parenchymatous goitre. There were three or four cysts, the largest being one inch in diameter. In several places there were calcareous deposits; one small lobule about three-fourths of an inch in diameter had an entirely different appearance from the rest of the tissues. It was yellowish-gray in color and looked like carcinomatous tissue. Microscopic sections did not show any cancer, but a large portion of them were of the distinctly adenomatous type as in the previous case.

Case 10.—Carcinoma of thyroid. Mrs. D. Clinical history was lost. One son had a goitre (see Case 12). Woman was in fairly good condition. There was an enormous tumor in the neck corresponding to the thyroid gland; it was tense and very slightly movable; surface was smooth and not nodulated. It extended from the angle of the jaw to the clavicle and filled up the entire anterior portion of the neck.

Operation April 1, 1907, under ether: The entire thyroid gland with the exception of a small portion at the apex of the upper right lobe was removed. The dissection was very extensive, and when finished the styloid process of the mastoid bone was exposed in the upper portion of the cavity, and the apex of the lung was exposed at the lower portion. There had been a good deal of hemorrhage, and patient was given an intravenous infusion on the operating table.

Patient made a good recovery from operation, but within two weeks the swelling had recurred, so that at the end of that time it was practically as large as before the operation. It soon interfered a great deal with respiration, and patient died five weeks

after operation on account of mechanical pressure on the trachea.

Pathology: Section showed a diffuse infiltration of cells resembling the normal thyroid epithelium. In many places these cells were present in large diffuse masses, and in other places the tissues retained a more typical alveolar structure.

Case 11.—Parenchymatous goitre. K. R., aged sixteen, single, Irish, was a schoolboy. There was no goitre in family. He noticed tumor in neck five weeks before admission; no trouble with swallowing or shortness of breath. It had grown very rapidly since first noticed. Tumor involved right half of thyroid gland.

Operation April 4, 1907, under ether: Right half of gland was removed.

Course: Uneventful recovery; primary union.

Pathology: Sections showed typical parenchymatous goitre.

When seen one year after operation condition was good. He works regularly in a silk mill. There was no enlargement of opposite side.

Case 12.—Parenchymatous goitre. D. D., aged twenty-one, single, Welsh. Mother was operated on for goitre in M. T. H. (see Case 10). Patient first noticed growth in neck two years before. It caused considerable pain and some trouble with breathing. Patient had been very nervous since she first noticed the growth; she felt weak and dizzy, and had no ambition. Swelling occupied isthmus and left lobe.

Operation July 20, 1907, under ether: Left lobe, isthmus, and part of right love were removed.

Pathology: Typical parenchymatous goitre; no cysts. The left lobe was three by two by two inches. The portion of the right lobe removed was about the size of a walnut.

Course: Uneventful recovery; primary union. When seen a few months after operation patient was well.

Case 13.—Parenchymatous goitre. B. P., aged twelve, Welsh, was a schoolgirl. There was no goitre in family. She first noticed swelling in neck about one month before, and it had grown very rapidly since that time. It interfered considerably with swallowing and breathing.

Physical examination revealed a tumor corresponding to right half of thyroid gland about the size of a man's fist, and a similar tumor on left side but somewhat smaller.

Operation October, 1907, under ether: Thyroid vessels on right side were ligated and right half of gland was removed. When this was removed it was seen that the enlarged left half still pressed considerably on the trachea in the middle line, so that the left half was removed in a similar way, with the excep-

tion of a small piece at the upper corner about three-quarters of an inch in diameter.

Pathology: Sections resembled exophthalmic type; acini moderately dilated with colloid, which took a bluish tinge from the hematoxylin. Many acini were irregular and branched. The alveolar epithelium was frequently of the high columnar type, but always in single layers.

Course: Uneventful recovery; primary union.

When seen six months later patient was well; no enlargement of remaining portion of gland.

Case 14.—Parenchymatous goitre. Mrs. H. W., aged thirty, American, was a housewife. There was no trouble of similar character in family. Her tumor appeared when she was twelve years old; first, directly in the median line, later on the right side, and then on the left. It increased gradually, and she did not notice any change in size during the child-bearing periods. During the past year it had grown very rapidly and pressed on the trachea. Her face was often bloated, and the blood in her face did not circulate well. She has usually been nervous, but has had no eye symptoms.

A physical examination revealed a well-nourished, healthy patient, but skin of face was slightly edematous. There was a very large tumor corresponding to the thyroid gland and involving both halves and the isthmus, but the right half was much larger. The veins over the tumor were very prominent; the eyes were not bulging and there were no signs of Graves's disease.

Operation January 23, 1908, under ether: Right half of isthmus was removed, but with considerable difficulty and after a good deal of bleeding. There was still a large mass formed by the left half of the gland, but on account of the patient's condition it was considered better to remove this at a later time. Wound was carefully dried and sewed without drain. Patient made a good recovery from this operation.

Second operation March 7, 1908, under ether: The entire left half of the gland was removed, with the exception of a small portion near the middle line. Wound was sewed tight without drain.

Pathology: Portion of tumor removed at first operation weighed 500 grammes. Portion removed at second weighed 385 grammes. Both had typical appearance of parenchymatous goitre on cross section and also under the microscope.

Patient reported by letter six months after operation that she was perfectly well; there was no enlargement of the neck of the remaining portions of the gland, and no disturbances of any kind.

Case 15.—Cystic goitre. Mrs. J. J., aged thirty, Welsh, was a mill worker. There was no similar trouble in family. She had

noticed a fulness in the neck for several months, but this had not caused any difficulty. She came to hospital for movable kidney with aggravated symptoms and wished thyroid tumor removed at the same time kidney was operated on.

Physical examination revealed a very freely movable, tender kidney on right side. Just above sternal notch there was a tumor corresponding to the thyroid about three inches in diameter. This was soft and smooth in outline and had the typical appearance of a cystic goitre.

Operation July 11, 1908, under ether: Curved incision about one inch above the sternum. Tumor was a cyst apparently growing from the isthmus. It was shelled out without ligating any of the thyroid vessels, and only a few bleeding points in its bed had to be ligated. The cyst extended about one inch below the margin of the sternum in the middle line.

Course: Uneventful recovery; primary union.

When discharged, one month after operation, the patient was well.

Pathology: Cyst removed was two inches in diameter and contained a clear fluid. Microscope showed usual appearance of cystic goitre.

Case 16.—Cystic goitre. Mrs. W. J. E., aged forty-three, married, Welsh, was a housewife. There was no goitre in family. Three months before she was suddenly awakened one night with feeling of choking in her throat. This had passed off, but she had had considerable shortness of breath at intervals ever since. She said she did not notice the tumor in her throat until about two months before, when it was its present size. She was hoarse at times, had no trouble with swallowing, and was somewhat nervous and excitable.

Physical examination revealed a tumor in the neck corresponding to the left half of the thyroid gland. Tumor was about two inches in diameter and most prominent directly over trachea. There were no signs of Graves's disease.

Operation July 11, 1908, under ether: Tumor easily exposed and found to be a cyst, occupying nearly the entire left half of thyroid gland. The thyroid vessels were tied, and the entire left half and isthmus were removed.

Course: Uneventful recovery; primary union.

Discharged eleven days later; the patient was well.

Pathology: Cyst removed was about two inches in diameter and contained about one ounce of clear yellow fluid. The cystic portion lay directly over the trachea. Microscope showed a typical cystic goitre. Portions of the thyroid removed uninvolved in the cyst were normal.

Case 17.—Cystic goitre. Mrs. E. G., aged twenty-eight,

married, Irish, was a housewife. There was no goitre in family. She first noticed tumor in neck three weeks before. She said that it bothered her some in swallowing, but she had no trouble in breathing. Patient said she was quite nervous.

Physical examination revealed a small tumor about one inch in diameter corresponding to thyroid gland. There were no signs of Graves's disease.

Operation July 23, 1908, under ether, showed that the enlargement consisted of a cyst involving left half of thyroid gland. Cyst was about one inch in diameter. The thyroid vessels on left side were ligated and cyst and entire isthmus were removed. The right side and a small portion of the left above the cyst were left intact.

Pathology: Microscope showed typical picture of cystic goitre. Isthmus showed normal gland tissue.

Course: Uneventful recovery; primary union.

Discharged eight days later; the patient was well.

Case 18.—Cystic goitre. E. A., aged fifteen, single. Father was Dutch; mother, Welsh. There had been no similar trouble in family. Eight months before she noticed difficulty in swallowing, and a short time after she began to have shortness of breath on exertion. One month before she noticed a small swelling on the right side of the neck.

Physical examination revealed a tumor about one inch in diameter corresponding to left half of thyroid gland. There were no signs of Graves's disease.

Operation August 22, 1908, under ether: Curved incision over lower part of neck. Tumor was found to be a cyst involving the upper part of left half of thyroid gland. Thyroid vessels were ligated and entire left half and isthmus were removed.

Course: Uneventful recovery; primary union.

Discharged fourteen days later; patient was well.

Pathology: Isthmus and lower part of thyroid were normal. Upper part was a cyst one and a half inches in diameter containing thick, grumous fluid. Entire tissues removed weighed fourteen grammes in fresh state.

Microscope showed no epithelium in section of cyst edge. The cyst edge contained very little connective tissue capsule, but fairly normal thyroid tissue extended close up to cyst edge. There was practically no pressure on the acini near the cyst edge. Sections farther from cyst edge showed thyroid tissue with acini rather larger than usual, but otherwise normal.—*The Therapeutic Gazette.*

THE USE OF THE X-RAY IN THE TREATMENT OF EXOPHTHALMIC GOITRE

BY J. C. PRICE, M.D., SCRANTON.

THE group of symptoms, known as exophthalmic goitre, is caused by a hypersecretion or activity of the thyroid gland accompanied by a hypertrophy of its parenchyma and a much increased blood supply to the part. Whatever may be the exciting cause of this condition, the relief obtained by removing part of the gland would indicate that an agent which could cause a more or less permanent atrophy and decreased blood supply to the gland without surgical interference, danger or shock to the patient, would be an ideal remedy for this condition.

I have been led, by the observation of others and my own limited experience, to the belief that we have such an agent in the X-ray. The well-known power of the X-ray to cause glandular atrophy and diminution in the calibre of blood-vessels, more or less permanent, depending upon the length and number of exposures, fills the indication.

I have treated three cases of exophthalmic goitre by this method with good results; the technique employed is as follows: A tube having a penetration of six or seven on the radiochrometer scale was used, allowing one milliampere of current to pass through it. The anode being placed twelve inches from the gland, the patient's face and chest are well protected by tinfoil, allowing only the neck to be exposed to the X-ray. The exposed part is covered with five or six layers of wet gauze, which acts as a filter, absorbing some of the softer rays and catching any electrified particles that may be projected from the tube to the patient; these particles sometimes infect the skin, causing a very inconvenient dermatitis. The exposure, lasting from ten to fifteen minutes, is given three times a week at first, and later once or twice a week. The exposures are discontinued at the first indication of redness of the skin, to be taken up again as soon as they may be without danger of a severe dermatitis.

Other than the X-ray treatment, the patient is given autocondensation, an electrode being placed over the epigastrium. This is given for the sedative effect on the circulation and the nervous system and the stimulating effect on the digestive organs to correct as far as possible any autointoxication, which may be an exciting cause of the disease.

The patient is advised, as far as possible, to exclude meat from the diet and is given arsenic and iron if he shows much

anæmia. A glandular reaction is shown very early in the treatment, characterized at first by swelling and hardening, and later by a marked diminution in the size of the gland. This is well described by Dr. Cook in his report of five cases in the *Journal of the American Medical Association,* March 7, 1908.

The reaction takes place in a lesser degree from time to time as the treatment progresses; the patient is soon relieved of the most marked nervous symptoms, especially the insomnia, the sleep becoming quiet and restful. There is usually a decided fall in the pulse-rate after the treatments, this being most marked at first, the pulse reacting less and less as it becomes nearer normal. The exophthalmos gradually becomes less prominent until, when the patient has had a normal pulse-rate for some time, it is scarcely noticeable.

The treatment should be continued at greater intervals after the patient has become practically normal, to insure against a return of the disease. The operator must bear in mind that the atrophy of the gland will progress for some time after the treatments cease, followed by a gradual regeneration of the glandular epithelium, which, I believe, will never be great enough to cause a return of the disease if the treatment has been continued long enough.

If the cures produced by this treatment prove permanent, the advantages are many, among which is the freedom from the mortality which occurs in surgical treatment; this mortality, according to Dr. Mayo's report of two hundred cases (*Journal of the American Medical Association,* July 4, 1908), is five per cent. from operation, and many surgeons have larger.

The patients will submit to X-ray long before they will surgery, thus permitting us to treat them before their general system is profoundly affected. They may continue their ordinary occupation, are freed from the harmful excitement that must occur before an operation, and the long convalescence following. There is no disfiguring scar and there is less expense.—*The Therapeutic Gazette.*

THE PREVENTION, BY OPERATION AND OTHER METHODS, OF RETROVERSION OF THE UTERUS AFTER CHILDBIRTH.*

BY EDWARD P. DAVIS, M.D.,
Professor of Obstetrics in the Jefferson Medical College of Philadelphia.

CASES of retroversion may be divided into those which are accompanied by retroflexion and those which have no flexion. The former are usually congenital, arising from lack of development, and are often without disease of the surrounding tissues. The latter, cases of simple retroversion, arise from a sudden strain which dislocates the uterus, or injury to those tissues which maintain it in its normal position. As infection often complicates such injury, the tissues surrounding the uterus are infected in these cases. A retroflexed and inverted uterus, pregnant, requires attention during the early months of gestation. If it does not rise from the pelvic cavity by the end of the third month, the patient should be anesthetized, the uterus brought into the proper position and maintained by a wool tampon. This is important in preventing a return of the retroflexion after labor, for in some cases the development of the uterus during pregnancy corrects the tendency to backward displacement.

Retroversion of the uterus is most apt to follow prolonged and difficult labor, in which the supports of the uterus are over-distended, and in which injury to the tissues occurs. To avoid this every effort should be made during labor to secure a favorable mechanism; remembering that serious laceration follows delivery with the occiput posterior, the obstetrician should secure anterior rotation. The patient should be placed upon that side toward which the presenting part is directed; if necessary, dilation accomplished by elastic bags; uterine contractions freely stimulated: the forceps should not be applied until engagement is pronounced, moulding well advanced, and rotation partially secured. If the head does not engage the case is one for podalic version, if the pelvis is sufficiently large to permit the birth of a living child. If the pelvis is contracted, or the child overgrown, the pelvis must be enlarged, or the child extracted by abdominal incision, or embryotomy performed. The use of the forceps should be under surgical anesthesia to relax completely the tissues most liable to injury.

The immediate repair of lacerations is of great importance in preventing displacement of the uterus. As these cases often occur where an instrument or the hand has been introduced within the

* Read before the State Medical Society of Pennsylvania, Sept. 17, 1908.

uterus, the operator's first duty is to avoid sepsis and hemorrhage. After the delivery of the placenta and its appendages the uterus should be irrigated with lysol 1 per cent., brought into proper position, and thoroughly packed with iodoform 10 per cent. sterile gauze. Strychnine and ergot should be given by hypodermic injection to secure good uterine contraction. With these safeguards against infection and postpartum hemorrhage, the operator may proceed to discover and repair lacerations.

Especially likely to be followed by uterine displacement are lacerations of the cervix, extending to or beyond the vaginal junction into the fascias and connective tissue near the insertion of the uterosacral ligaments. These tears are not discovered without careful examination. In addition to digital search the cervix should be grasped by tenaculum forceps, drawn downward and strongly to one and then to the other side. By retracting the vaginal tissues, such deep and extensive tears can be located. They should be repaired with No. 2, ten- to twenty-day chromicized catgut, inserted by a fully curved needle, especial care being taken to bring together the tissues at the highest point of the tear. This is a matter of considerable difficulty but of great importance. The upper half of the torn cervix may be brought together in a similar manner. As the tear extends along the pelvic floor toward the perineum, it should be closed with catgut, especial attention being given to the lateral sulci. In very extensive tears it may be necessary to use two tiers of suture, the first of finer catgut to remain buried in the bottom of the wound. It is occasionally necessary to twist or ligate with fine catgut bleeding vessels in these deep lacerations.

When the posterior segment of the pelvic floor has been closed, the operator may turn his attention to the anterior segment. This comprises the anterior vaginal wall and the tissues about the urethra. Laceration in this region is not infrequent, and if extensive is accompanied by hemorrhage and by considerable injury to the uterine supports. Such tears should be closed with catgut, care being taken to place a catheter in the bladder and urethra to avoid injury to the urethra, if tears in this vicinity are deep.

When both segments of the pelvic floor have been repaired the operator can proceed to close the perineum. If the laceration has extended into the bowel, especial care should be given to bring together the ends of the sphincter with buried stitches of fine catgut. The bowel should then be closed and the pelvic floor brought together as in other cases. To unite the perineum, stitches should begin at the lower border toward the anus, silkworm-gut being inserted, from below upward, until the perineal stitches meet those already placed in the pelvic floor.

When the patient is in shock this operation may be postponed from twenty to twenty-four hours after labor.

The effort to perform this operation properly will utterly fail if the patient is on a low, broad bed, if the light is poor, if the operator has not suitable assistance, and if he is not accustomed to surgical technique. A physician who cannot fulfil the necessary requirements should not attempt such repair. If hemorrhage is present he may tampon the uterus and vagina tightly with iodoform gauze, removing this in thirty-six hours and giving one copious irrigation of lysol 1 per cent. If the patient needs repair this must come in these cases as a secondary operation.

Physicians do themselves great injustice in attempting obstetrical operations without proper facilities. If the physician does not care to improvise an operating table, the patient's bed may be raised upon blocks prepared during her pregnancy, and if a narrow bed be used the result is fairly satisfactory. Sufficient assistance should be summoned to difficult confinements to enable the attendant to operate under favorable circumstances, to his own satisfaction and greatly to the benefit of the patient. Those who practise obstetrics must acquire the necessary skill and facility, if they are to do justice to themselves and their patients.

The results of operations for the closure of lacerations in the tissues high in the vagina and about the cervix depend greatly upon *the presence or absence of infection.* Should this accident occur, only partial, if any, union will follow, and lacerated surfaces become suppurating wounds which must heal by granulation. In cases in which infection develops it is necessary to remove stitches, allowing the parts to open freely for drainage.

In our experience infection has not developed as a result of the closure of these wounds in the manner described. In cases severely infected at the time of labor, or when found infected immediately after labor, we do not attempt to close lacerations but treat the patient as an infected case. In the experience of myself and those who work with me cervical lacerations requiring suture have healed in 80 per cent. of cases, in 10 per cent. there has been partial union, and in 10 per cent. failure of union. In *no case has infection developed as the result of this operation.* The results have been sufficiently good for us to follow this method of operating both in hospital and private practice.

The binder can undoubtedly induce backward displacement of the uterus if it be applied from below upward, or worn too tightly and continuously. In treating a relaxed uterus which threatens hemorrhage, the greatest pressure should not be applied directly upon the uterus, but above it by a thick pad placed transversely across the abdomen from the epigastrium downward; this carries the fundus downward and forward against the pelvic brim. The

binder should not be used too long, but so soon as the patient's general condition justifies it should be omitted. Where patients can have massage after labor, accompanied by movements of resistance and modified Swedish movements, such treatment forms a most valuable aid in restoring the normal condition of the tissues and preventing displacement.

The time for the patient to get up should be determined by the condition of the individual and not by fixed rule. Patients are usually more comfortable and less likely to throw the uterus backward if they sit in a reclining chair rather than upright in bed. In the chair the patient leans back comfortably and does not strain the abdominal muscles, and there is little or no tendency to backward dislocation of the uterus. Where the patient sits almost erect in bed the posture is much less comfortable and the abdominal muscles are often thrown into considerable tension. In cases in which there is a tendency to retroversion, so soon as the patient can leave her bed she should assume the knee-chest posture from ten to fifteen minutes night and morning. The nurse should take care that the vagina becomes thoroughly distended with air. Constipation and straining in defecation should be avoided.

In aseptic patients in whom the measures already described fail to keep the uterus in proper position, pessaries may be used so soon as the lochial discharge ceases. The kind of pessary will depend upon the conditions in the individual case. A rubber-covered spiral ring is useful in many cases, while in others a retroversion pessary with broad posterior bar gives a better result. Where there is no evidence of inflammation or exudate and the patient tolerates a hard pessary badly, a wool pessary boiled in lysol one per cent. may be used instead. These should be made in the form of a bar, which is placed across the posterior vaginal vault, carrying the cervix backward, or if this cannot be retained in position, a large ball tampon may be used. Such pessaries cannot be worn longer than twenty-four hours, and during their use the patient should have vaginal douches, at least once in twenty-four hours, when the pessary is removed. In cases in which the retroversion is accompanied by subinvolution, benefit sometimes follows the use of ichthyol applied on wool tampons.

The pessary, however, must be considered as a crutch which the patient is to discard as soon as possible. As the patient gets up and is able to take exercise, her general health good and constipation absent, she may try to do without the pessary, still continuing the knee-chest posture. If she can be persuaded to avoid corsets, using a suitable waist instead, her chance for avoiding retroversion will be much better. If she nurses the child involution will usually be better, but in anemic women long-con-

tinued lactation may bring about relaxation of the uterine supports and favor the development of retroversion.

When, however, a reasonable time has elapsed with the use of the pessary, and retroversion promptly recurs when the pessary is not worn, the permanent cure of the dislocation by operation should be considered. Ventrofixation and ventrosuspension should not be selected until after the menopause. Shortening of the round ligaments, or shortening of the uterosacral ligaments, or both, are the operations indicated.

In shortening the round ligaments the intraperitoneal method is better than Alexander's operation. The operator may select transverse or longitudinal abdominal incision as he prefers. Gilliam's method is essentially that which has given the greatest success, and has been modified by many operators in accordance with their individual judgment and experience. The round ligaments may also be shortened by bringing them through the broad ligaments behind the cervix, if this be thought best. I have had good results in shortening the round ligaments within the abdomen by placing a double catgut ligature about the round ligament at its middle, drawing the loop of ligament through its canal upward and inward, and sewing each ligament to the fascia and peritoneum on the under surface of the abdominal wall, one-third between the pubes and umbilicus. The intra-abdominal operation gives the operator a chance to examine the pelvic tissues and to attack any pathological condition suitable for operation which he there may find. An obtrusive appendix can sometimes be "lifted" without detriment to the patient.

Intra-abdominal shortening of the uterosacral ligaments has not in my experience been easy or successful. Much better results have followed the closure of vaginal lacerations, extending deeply into the fascias and involving the uterosacral ligaments, in the manner described.

In cases in which congenital retroflexion has been present before pregnancy, all means short of operation may fail to prevent its recurrence after labor. Where involution is good, infection absent, the uterus mobile in its retroflexed position, and the ovaries and tubes not prolapsed or adherent or tender, there is no necessity for correcting the retroflexion. Such a patient will be comfortably well if she is not told of the retroflexion. Where, however, the patient recovers from childbirth, and retroflexion and retroversion, with prolapsed and adherent tubes and ovaries, impaired uterine mobility, and general tenderness, are present, the case requires treatment for pelvic infection and not for simple dislocation of the uterus.

The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D., EDITOR, 43 BLOOR STREET EAST, TORONTO.

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Editorials.

THE TORONTO FILTRATION PLANT.

THE Toronto filtration plant is to be located on the island opposite the city, near the intake pipe, which extends from the south shore of the island into Lake Ontario. Of the twenty acres set apart for the purpose, ten will be required. There will be twelve filter beds, two rows of six each, and the water will be pumped from the intake pipe between these rows of beds. It will be filtered

through sand and stone, afterward running out through tiles laid on the bottom to the pure water reservoir at the north end. This will have a capacity of 3,000,000 gallons. From this reservoir the water will flow into the 72-inch steel pipe leading to the tunnel under the bay.

In addition to the electrical engine to operate the pumps there will be a steam engine to be used in case of accident to the electrical engine. The tanks will be of concrete and sodded on top. The cost of the filtration plant is estimated at $750,000.

This water filtration plant will be a source of gratification to Torontonians, as it has been expected for some time. Seventeen years ago, the Chairman of the Provincial Board of Health of Ontario, after alluding to the foul condition of Toronto water, at that time used the following words: "How much better then, would it not be for us to have our water filtered, being thus quite secure and satisfied that no matter what conditions might supervene during the transmission of Lake Ontario water while passing through Toronto's sewage-laden bay, it would be delivered to the people after filtration in a state of crystal clearness and absolute purity from pathogenic or saprophytic germs?" (Eleventh Annual Report of Provincial Board of Health of Ontario for the year 1892, p. 41).

Since the beginning of the present year the Toronto water supply, instead of being brought to the city from Lake Ontario through an iron pipe, part of which lay at the bottom of Toronto bay, now flows through a 72-inch tunnel excavated in the rock beneath the bay. This tunnel was constructed at a cost of $150,000, and the view held by many, was, and is, that water so conveyed from Lake Ontario should be quite pure. Such is not the opinion held by Dr. Sheard, M.H.O., who, in reply to a communication from the civic Board of Control, reported the analysis of city water for a period before and after the completion of the tunnel beneath the bay. Through Dr. Sheard's courtesy we are enabled to supply this report as follows:

Daily Tests for B. coli:

January, 1908, B. coli present 2nd, 4th, 13th, 14th, 15th, 16th, 24th and 28th; eight days in all.

January, 1909, B. coli present 4th, 5th, 6th and 14th; four days in all.

February, 1908, B. coli present 1st, 9th and 19th; three days in all.

February, 1909, B. coli present 1st, 9th and 17th; three days in all.

Bacteriological weekly count showing bacteria per cubic centimeter present in the water:

1908:—Jan. 7th, 975; Jan. 13th, 2385; Jan 20th, 1260; Jan. 27th, 1015; Feb. 3rd, 315; Feb. 10th, 425.

1909:—Jan. 4th, 860; Jan. 11th, 165; Jan. 18th, 130; Jan. 26th, 770; Feb. 1st, 155; Feb. 8th, 95.

To explain these data, Dr. Sheard says:

"In considering the above reports it is necessary to understand that the water of Toronto harbor was comparatively free from ice throughout January, 1908, whilst it was covered with ice in 1909, thus withdrawing the water from wind influence, consequently there would not be the same tendency for the polluted water of the bay to be driven through the eastern and western gaps. This, in my opinion, is entirely responsible for the apparent improvement in the water supply of 1909. I might point out that this improvement is not so very marked, being but a slight improvement."

Before accepting Dr. Sheard's explanation as conclusive, it would be well to await the bacteriological weekly counts during March, April and May, 1909, and compare them with the counts made in the same months, 1908. Should the comparisons continue favorable to 1909 water, the inference would be that the water tunnel does exclude bay water from the supply better than the old iron conduit did, the condition of the lake water at the intake being the same in both years. If unfavorable to the water of 1909, they would indicate that the water tunnel, though tight, does not ensure a pure water supply, and that the contamination of the Toronto water supply is caused by currents flowing from the polluted bay towards the intake. That outbreaks of typhoid fever were not of general occurrence and severity in Toronto sixteen years ago, when the water supply was drawn from a sewage-polluted bay, was gladly accepted as a fact; but was not intelligible to learned or unlearned. An explanation of this anomaly seems to have been reached by American investigators, who have specially studied the survival of typhoid germs in potable water and in foul water. (See Bacteriological Examination of Water Supplies: Savage). Several independent observers have studied this ques-

tion and we introduce here a quotation from Russell and Fuller, who reported on the longevity of typhoid germs at Chicago in 1906. They say: In waters highly polluted with saprophytic bacteria, such as is the case in sewage, the bacillus typhosus is unable to survive for more than a few days, (three to five days in the experiments described) a period of time materially shorter than that which is noted in normally unpolluted waters."

The investigations made by these bacteriologists warranting the conclusions that the longevity of the typhoid bacillus in water is materially affected by the germ content of its surroundings, go to prove that, in the impure water of Toronto bay, the typhoid germs perish in a few days, and are powerless to propagate typhoid fever in people who drink Toronto water. Our sanitary shortcomings have assisted in saving us from typhoid fever; the more defiled Toronto bay has become, the shorter the span of life of the typhoid germs discharged into it from the city sewers. It must also be admitted that the addition of disinfectants to typhoid stools has been generally practised here since the establishment of the Provincial Board of Health of Ontario in 1882.

Grateful as Torontonians are to the saprophytic water of Toronto bay, they will not convert it into a sanitary palladium; but will change it into a liquid less hostile to bacteria, while more pleasing to the senses, by installing a trunk sewer and outfall to carry the sewage away from Toronto bay, and several miles to the east of the city.

In the meantime, learned and unlearned in Toronto rejoice that, instead of experimenting with the bacteria in the city water supply, they will soon be able to drink the filtered water of Lake Ontario—clear as crystal and free from pathogenic or saprophytic germs. J. J. C.

THE CONTROL OF BOVINE TUBERCULOSIS.

In a paper read at the Washington Congress on Tuberculosis, October 1, 1908, Mr. J. G. Rutherford, Veterinary Director-General and Live Stock Commissioner in the Department of Agriculture, Canada, advocates a cautious policy in dealing with herds of cattle, some of which have been proved to be tuberculous

by the tuberculin test. He is opposed to the testing of herds belonging to owners who are willing to submit the herds to the tuberculin test, and states that it is wrong to accept as final the results of the tuberculin test alone, because, owing to a surreptitious dosing of the cattle with antipyretics by dishonest owners, prior to the injection of tuberculin, the biological test is vitiated, and a proper normal reaction is not got, even in tuberculous animals. Hence, when the tuberculin test is made, clinical symptoms should be looked for. Should tuberculosis be present, the following symptoms will be observed in from six to twelve hours:—Rigors, staring coat, general excitation, and frequently diarrhea. In less marked cases, there are coldness over loins, quarters, thighs, and tail, subacute excitation and general malaise. Even when these symptoms have passed off, the animal maintains a standing posture and is more or less stiffened; there is loss of appetite, rumination is suspended, and in milch cows the flow of milk is diminished.

To inject tuberculin into the animals of a herd, without following up the investigation by making subsequent tests, is wrong. For instance, a herd of say one hundred cattle are tested with tuberculin, and twenty-five reactors found. These twenty-five animals, together with any others, which, owing to an advanced stage of the disease, fail to react to tuberculin, but may be detected by clinical examination, are slaughtered and the premises disinfected. A retest made after three months will probably reveal five to ten new reactors. The ten reactors may, however, have inoculated some of the remaining sixty-five animals and, three months later, some of the latter will be found affected.

In lieu of the optional method of testing with tuberculin, Mr. Rutherford recommends that all clinical, or if they can be detected, open cases of tuberculosis should be slaughtered, all the adults in herds, in which such cases are found, to be treated as if diseased, marked and segregated, all milk from such herds to be pasteurized; the progeny to be effectively separated from the adults, regularly submitted to the tuberculin test and kept by themselves until the disease has been eliminated from the premises. Animals added to the healthy herd to be tested on purchase and retested after three months isolation. The presence of one or more clinical cases of tuberculosis in any herd would be a reasonable ground

for official interference with such a herd, and, if notification of tuberculosis by owners or veterinarians were made compulsory, a basis for official interference with herds would, in most instances, be forthcoming.

While waiting for legislation to make his method workable, Mr. Rutherford advises the proper ventilation of cattle byres, or rather the kind of ventilation which proves curative in human tuberculosis, viz., a life in the open air. To illustrate this feature in the elimination of tuberculosis from herds, Mr. Rutherford describes an experiment which he has been making with a herd of forty-three cattle, twenty-eight of which had reacted to tuberculin, the remaining fifteen being apparently free from that disease, the whole herd having been kept under open air conditions since the fall of 1905. This experiment is not yet concluded, but the following results have been noted: Of the twenty-eight reactors, one has broken down from generalized tuberculosis, another has been killed for tuberculosis of the udder, none of the healthy animals kept in contact with the reactors have become infected, in spite of the fact that from time to time animals suffering from acute generalized tuberculosis have been introduced into the herd and allowed to mix with its original members. Of the calves dropped and raised by reacting cows, seventy-five per cent. have so far failed to react, while twenty-five per cent. have reacted at various stages, ranging from four months to one year. One calf died when six weeks old from generalized tuberculosis, this case being probably congenital. The cattle had no shelter but open sheds, and, with the exception of a few of the weaker animals, have been fed nothing but hay for the three winters during which they have been under observation, Mr. Rutherford thinks that his experiment proves that young animals can be, and are, most frequently infected with tuberculosis through the digestive system; also that, in the case of adult animals, infection through the air passages plays an important part. He thinks that had the healthy cattle, in his experiment, been kept with their diseased companions under ordinary stable conditions, they would not have escaped, as they have done.

A most interesting study. It is to be hoped that Mr. Rutherford, having the opportunity to investigate the propagation and cure of tuberculosis among the lower animals, will have control

experiments made in tested animals, kept under varying stable conditions—good, bad and indifferent—and the results tabulated for comparison with animals kept in the open air. J. J. C.

WHY IS THE IMMIGRATION ACT NOT ENFORCED?

AGAIN, a few days ago, the laxity of enforcement of the Immigration Act was brought to the notice of the public, the case being that of a young man who died in the ambulance en route from the House of Industry to the General Hospital, the post-mortem showing a very advanced state of tuberculosis. Deceased had been a year or less in this country. The pertinent question presents itself: How did he gain admission at the border? The law dealing with this subject is very clear, apparently, and without loopholes. We quote as follows from one or two of the sections of the Immigration Act:

Section 27 of the Immigration Act, being Chapter 93, R.S.C., provides that: "An immigrant shall not be admitted to land in Canada who is afflicted with a loathsome disease or with a disease which is contagious or infectious or which may become dangerous to the public health or widely disseminated, whether such immigrant intends to settle in Canada or to pass through Canada to settle in some other country, unless the disease is curable within a reasonably short time."

Section 33, as amended by Section 2 of Chapter 19, R.S.C., 1907, provides as follows: "Whenever in Canada an immigrant has within two years of his landing in Canada become a public charge, or an inmate of a hospital or other charitable institution, it shall be the duty of the Secretary of the Municipality to forthwith notify the Minister, giving full particulars. On receipt of such information the Minister may, in his discretion, after investigating the facts, order the deportation of such immigrant at the costs and charges of such immigrant if he is able to pay, and if not, then at the cost of the Municipality wherein he has been last regularly resident, if so ordered by the Minister, and every immigrant deported under this Section shall be carried by the same transportation Company or Companies which brought him into Canada to the Port from which he came to Canada

without receiving the usual payment for such carriage, and in case he was brought into Canada by a Railway Company, such Company shall similarly convey him or secure his conveyance from the Municipality or locality whence he is to be deported to the country whence he was brought."

By Section 21 provision is made for the hours at which Medical Inspection of passengers shall be performed, namely, at the hours named in the regulations made by the Minister.

By Section 22 it is provided that the Immigration Agents shall provide suitable facilities for the examination of immigrants at each point of entry.

By Section 23 it is provided that the Medical Health Officer shall, after inspection, mark the steamship ticket or railway ticket or passport of each passenger who has passed the Medical Inspection, and the Immigration Agent shall detain any passenger who has been inspected and not admitted, and shall be responsible for the safe keeping of the person so detained.

The medical societies, public health officers, philanthropic and other associations, public press, Church, even to the crowned heads of Europe and the uncrowned heads of the Grand Republics, have all joined forces to try and stamp out the *Great White Plague*. It would seem as if every preventative measure that could be thought of was enforced, with so many to command and direct, and yet cases are frequently cropping up where the most unpardonable laxity has been permitted to pass unpunished. Canada has much to offer to the strong, capable and brave; but its welcome is not to be misunderstood; it is not to be mistaken for a sanitarium or a cemetery, still less for a garbage pail for England, Ireland and Scotland to dump their diseased, incapable, demented and drunken overflow.

Robert Service's clarion words of the Great Northland embody magnificently the whole message of "Our Lady of the Snows." Let the Motherland listen and heed:

"Send not your foolish and feeble; send me your strong and
your sane:
Strong for the red rage of battle; sane, for I harry them sore.
Send me men girt for the combat, men who are grit to the core;
Swift as the panther in triumph, fierce as the bear in defeat,
Sired of a bulldog parent, steeled in the furnace heat.

Send me the best of your breeding, lend me your chosen ones;
Them will I take to my bosom, them will I call my sons;
Them will I gild with my treasure, them will I glut with my meat;
But the others—the misfits, the failures—I trample them under my feet.
Dissolute, damned and despairful, crippled and palsied and slain,
Ye would send me the spawn of your gutters—Go! take back your spawn again!"

W. A. Y.

VACCINATION AGAIN.

We quote with pleasure a very interesting and concisely written editorial from the *News* of March 9th:

"The organizer of the National Anti-Vaccination League of Great Britain, who visited Toronto the other day, proclaims lymph to be a snare and sore arms a delusion, so far as protection against smallpox is concerned. But the vast majority of people are persuaded that the ravages of a loathsome disease have been checked by Jenner's discovery. Within a few days the Kingston Board of Health has resigned office in protest against the City Council's repeal of the compulsory vaccination by-law.

"Dr. Alexander C. Abbott, chief of the Bureau of Health of Philadelphia, maintains that isolation hospitals and vaccine are the two available weapons against smallpox. He regards the latter as the most effective in driving the disease out of a community and preventing its reappearance. The Philadelphia Bureau pays particular attention to systematic vaccination. Dr. Abbott has seen only six or seven "bad arms" in 324,816 vaccinations which have come under his notice, and these were affected by dirt after infection. He has heard of only one death from vaccination. Investigation showed that the child had a rhinitis when vaccinated, and septic pneumonia when it died.

"Smallpox appeared in Europe in the fifteenth century, and its ravages rapidly extended until the eighteenth. Forty-five thousand victims died in Great Britain every year, 40,000 in Prussia, and 150,000 in France. The pest is said to have carried off

2,000,000 Russians in a single twelvemonth. Catlin attributes the death of 6,000,000 American Indians to the disease. It is maintained that prior to the vaccination era only a small proportion of the people escaped its ravages. Up to that time all but five per cent. of the adult population were survivors from attacks of the disease.

"Within the hundred years since vaccine began to be used we have seen a universal plague reduced to the proportions of an occasional epidemic. The opponents of vaccination attribute the decline to the improvement in sanitary conditions, but such conditions have exerted no similar influence over the mortality from measles, scarlet fever and whooping cough.

"Smallpox increases with the neglect of vaccination. Physicians maintain that universal infant vaccination, and its logical complement, the universal re-vaccination of adults, would exterminate the disease. Germany, where vaccination is insisted upon, had only 287 deaths from smallpox in five years, as compared with 23,000 in Spain; 12,000 in Hungary; 11,000 in Austria and Italy, and 275,000 in Russia. It is further asserted that so long as the person vaccinated is normally healthy, so long as pure calf vaccine is employed, the rules of cleanliness observed, and the scab properly guarded, no dangerous consequences need be feared."

One great step in the right direction was made when by the untiring efforts of certain elect ladies of our city (we understand), regular and special Medical Inspectors were appointed to look constantly after the pupils in our public schools. *Compulsory vaccination must be enforced,* and all the Anti-Vaccinationists on our Board of Education ought to be examined carefully and operated on, and the growth removed that makes them nothing short of crazy on this one subject. Otherwise, they are, no doubt, sane and estimable citizens. The children *must be protected.* Let the Sunday School superintendents and teachers take this up and refuse to give prizes or to allow Santa Claus to give a thing off the Xmas tree to a child who has not been vaccinated. We do not want rows of small pock-marked faces looking out at us, though their sweet little voices sing, "I want to be an angel." They would not look dressy, even with wings. W. A. Y.

EDITORIAL NOTES.

Epilepsy Caused by Alcohol.—A large group of convulsive seizures, allied to epilepsy, are due to a toxic agent, as in lead poisoning or uremia. Severe epileptic convulsions also occur in steady drinkers. Kovalefsky, a Russian physician, shows that wine drinking may produce epilepsy. He says: "Caucasus is a country of grape and wine making. The drinking water from the mountain rivers is bad, but the wine is good. The natives of Caucasus quench their thirst not with water but with wine, and the wine is no light one. It contains from five to fifteen per cent. of alcohol. Wine drinking is so common that no one considers it inebriety. Everybody knows what a high percentage of epilepsy is caused by the abuse of alcoholic beverages. I have spent the summers during the last fifteen years in Caucasus, where I have a medical practice, drawn from a large district, and in no other place have I had so large a proportion of epileptics among my patients." In epileptics, the post-epileptic symptoms are of importance. The patient may be in a trance-like state, in which he performs actions of which subsequently he has no recollection. Attacks of mania may occur, and the epileptic patient may be dangerous or even homicidal. It is held by good authorities that an outbreak of mania may be substituted for the fit. Should an epileptic, in an attack of mania, wound or kill some person, he is considered to be irresponsible, according to a verdict given after a trial for murder, held recently at London, Ont.

Spiritus Aetheris Nitrosi.—Spirit of nitrous ether is used in medicine for about the same purposes as the solution of ammonium acetate, being particularly serviceable in febrile affections to promote critical sweating. It is frequently given as a diuretic in Bright's disease, congestion of the kidneys, and painful affections of the urinary apparatus. This remedy is also used to quiet nervous agitation, and as an antispasmodic to relieve the pain of dysmenorrhea. It consists essentially of a solution of ethyl nitrite in alcohol. According to the British Pharmacopea freshly prepared spirit of nitrous ether should contain at least 2½ parts by weight of ethyl nitrite in 100 parts by weight of the spirit, and even after it has been kept for some time and the vessel con-

taining it has occasionally been opened, it should yield not less than nearly 2 per cent. by weight of ethyl nitrite or a minimum of 1¾ per cent. The United States Pharmacopea requires 4 per cent. of ethyl nitrite. In Bulletin No. 167, Laboratory of the Inland Revenue Department, Ottawa, Canada, the chief analyst reports upon 77 samples of spirit of nitrous ether collected throughout Canada in October, 1908. The samples are classified as follows:— Genuine, 28; adulterated, 49; total 77.

Thus it appears that 49 of these samples were adulterated, that is to say, contained less than 1.75 per cent. of ethyl nitrite. The chief analyst says: "It is evident that the retail druggist must be held responsible for the proper strength of this article, since it is so liable to lose strength on keeping, especially when the container is frequently opened." As a matter of practical pharmacy it is well to know that nitrites tend to decompose in water with formation of nitrous acid. Thus nitrites may become incompatible with iodides, if iodides are prescribed with spirit of nitrous ether. It is usual in dispensaries to keep a few crystals of potassium bicarb. in the Sp. Ætheris Nitrosi bottle to neutralize any acid formed.

Pure Air Necessary for Health.—Since pure air is proved to be necessary in the successful treatment of tuberculosis, even delicate persons are not quite so easily scared by cold pure air, and window ventilation in winter is obtaining more promotors and advocates. Ventilation in the home depends on ourselves; in street cars, railway carriages, and public buildings, it depends on the management. Public authorities have to take the initiative in enforcing ventilation in public buildings. The Department of Health of Chicago is taking action to have an adequate method of ventilation installed in eighteen five cent theatres in Chicago. Investigations are also being made as to the ventilation of the suburban trains entering Chicago on the various railroads and data for suits are being collected. Suits have already been entered against some of the steam railroads. The Department of Health of Chicago intends to vigorously prosecute these offending public carriers, until some adequate means of ventilation is provided. The effort made by the Department of Health of Chicago to force the steam railroads to install systems of ventilation will be futile, unless they secure legislation making it unlawful to permit overcrowding in passenger

cars. Owing to the extremely small amount of cubic space allotted to each passenger in a filled railway carriage, its ventilation is never adequate, unless the windows are opened. In winter a crowded car becomes, for a time, a veritable "Black Hole," relieved occasionally by the opening of the doors. The Pennsylvania Railway Co. have introduced a system of ventilation into their passenger cars, which is said to work satisfactorily. Doubtless if the Canadian Legislatures pass laws demanding the ventilation of Canadian railway carriages, efforts will be made to imitate the system of ventilation adopted by the Pennsylvania Railway Co. A specification for ventilation should be provided for in the plan of construction of every public building, and no public building should be taken over from the contractors, until its ventilation has been tested and found adequate by official inspectors. The Massachusetts law providing for the ventilation of public buildings should be adopted in Ontario.

The Disinfection and Cleaning of Passenger Cars.—Canadians and Americans are great travellers, and, in their efforts to improve their health and secure happiness, encounter perils by day and by night on the iron way. It is now looked upon as certain by observers of international reputation, that thousands of cases of infectious diseases, without any discoverable source, are due to infections absorbed during railway travel. Upholstered sleeping cars are excellent breeding places for microbes, as they are filled with dust arising from the clothing and baggage of travellers of varying degrees of cleanliness. Dust also forces its way into cars owing to the action of winds. As long as the floors of railway carriages are kept clean during a trip, we do not think a railway company should be held blameworthy for the presence of dust in the carriages. Experiments made to test the presence of microbes in the air of the suburban railway carriages of London, Eng., showed that the percentage of microbes found was trivial in the air near the ceilings, that it increased in the air lower down, and that it was greatest in the air near the floors of the carriages. After a trip of say 300 miles, day coaches and sleeping coaches should be washed, scrubbed, aired and disinfected with formalin. Railway companies are interested in the practice of hygienic rules, to please the travellers; the travellers are interested in them to

save themselves from dangerous risks or illness. Death may lurk in an undisinfected sleeping car, as well as in a spread rail.

Lead as an Abortifacient.—Under the influence of lead, abortion is liable to occur, or the child will be stillborn. These results are thought to be due to a disturbance in the quantity and quality of the blood supply to the affected parts. Writers in the British medical press mention that, in England, diachylon in the form of pills is used as an abortifacient at the present time. Puzzling symptoms traceable to lead poisoning occur in women who have recently miscarried. As patients who have used diachylon for an improper purpose are not frank in their statements to the doctor, the latter has to make the diagnosis of unusual symptoms, after a careful clinical examination. Experience shows that in all cases of lead poisoning from diachylon, in which severe symptoms occur, the blue line on the anterior gums is present, and is often quite distinct. The principal symptoms complained of by patients who had miscarried as the result of the use of diachylon pills were vomiting, attacks of abdominal pain, pain in passing urine and constipation. The patient's expression was anxious and dazed; the complexion sallow and anemic. The treatment employed consisted principally in the administration of magnesium sulphate and opiates. After freedom from colic had been obtained, potassium iodide was given to assist in the elimination of the lead, and subsequently a mixture of Liq. Ferri Perchlor. and Liq. Ammon. Acetatis for the albuminuria and anemia.

Brandy Chocolates.—Evidently the love of alcohol is not confined to men. Recently, March 3, '09, five Toronto confectioners were brought before the police magistrate for selling candies containing a greater percentage of proof spirit than the law allows. Three pleaded guilty and were fined $50 and costs, or three months each, two failed to appear and their cases were remanded for a week. The analysis of the candies bought at the confectioners' stores showed that the confectionery complained of consisted of brandy chocolates and candied fruits soaked in alcohol and then coated with chocolate. Many of them contained as much as 30 per cent. proof spirit. As one of the lawyers remarked: "These spirits can only be sold over the bar."

Independent Prescribing.—The chief hindrance to independent prescribing is the fear of chemical incompatibility. Chemical incompatibility is a very large subject; but any physician who has had a fair training in chemistry ought to be able to steer clear of manifest incompatibility. For instance, in prescribing liquid preparations of iron, he should remember that iron salts are not to be prescribed with anything containing tannin, because tannate of iron is ink. Ordinary iron preparations, such as Liquor Ferri Perchlor. or Tincture Ferri Perchlor. are precipitated by alkalies. Ferri et Am. Cit. and Ferrum Tartaratum are not precipitated by alkalies. A good formula for an iron tonic, which agrees with a dyspeptic stomach, is the following:

℞.	Ferri et Am. Cit.	gr. 160
	Spt. Am. Arom.	f ℥ i
	Glycerini	f ℥ ij
	Infus. Calumbæ	ad ℥ xvi

Sig. ℥ss. post cibum in ℥ss. aquæ. M. Ft. Mist.

Liq. Arsenicalis, being alkaline, should be prescribed with Ferri et Am. Cit. or Ferrum Tartaratum. If it is desired to administer arsenic with Tincture Ferri Perchlor., then Liq. Arsenici Hydrochlor. should be prescribed. Iodides and bromides are compatible with Ferri et Am. Cit. or Ferrum Tartaratum; incompatible with Liq. Ferri Perchlor. or Tincture Ferri Perchlor., as the acid solutions tend to set free iodine or bromine. A knowledge of how to combine in a mixture of one's own making the drugs which are indicated in a given case is a useful accomplishment, for one has to disguise drugs as well as make diagnoses. When a practitioner writes a prescription, he should exercise great care, if he wishes to retain the confidence of the person who has to take the medicine, and the respect of the pharmacist who will prepare it. J. J. C.

Atropine as a Hemostatic.—May we ask any of our readers having on hand any data on this subject to oblige us with the same. They are for the use of a subscriber who intends reading a paper on "Atropine as a Hemostatic" at an approaching medical convention.

PERSONALS.

Dr. E. W. MacBride, of McGill, who has been appointed Professor of Zoology at the Imperial College of Science and Technology, London, will probably leave Montreal at the end of the present session.

We are pleased to be able to report that Dr. H. J. Hamilton, president of the Ontario Medical Association, who recently met with a very painful accident, is recovering nicely and expects to resume work shortly.

The many friends of Dr. Chas. D. Parfitt will hear with pleasure of the purchase of the beautiful private residence, "Minnewaska," near Gravenhurst, as a private sanitarium, and its being opened on March 1st, for the accommodation of Dr. Parfitt's private patients. It will be under the charge of Mrs. Fournier, a Canadian superintendent of nurses, who has for the past ten years or more held important positions in the United States, and now returns to Canada, where she will doubtless make an even greater success of this private hospital than she did of the hospitals where she worked in Ann Arbor and Fort Wayne. This is the first provision in Ontario (outside of the N. S. A.) for non-charity patients having tuberculosis. We wish it success.

The Canadian Medical Exchange, conducted by Dr. Hamill, Medical Broker, for the purchase and sale of medical practices and properties, desires us to state that besides having from fifteen to twenty desirable practices for sale at the present time, he also has requests from over eight different villages without a doctor, where there are most inviting opportunities to work up a practice. These latter openings would suit young doctors, or any medical men who would be satisfied with making about $2,000 per year. Full particulars of the former or latter will be cheerfully given to any physician who cares to write Dr. Hamill, Janes Building, Toronto.

Obituary

DEATH OF DR. GLASGOW.

Lieut.-Col. Glasgow, M.D., is dead, and in his passing one of the best-known figures on the Niagara frontier is gone. Colonel Glasgow was commander of the Second Dragoons. His name was frequently mentioned as a Liberal candidate for the Commons. He was a member of the Ontario Medical Council and former president. Diabetes was the cause of death. He was aged fifty-four.

DEATH OF WILLIAM T. BULL.

William Tillinghast Bull, New York, at the age of sixty, died on February 22nd, of a carcinomatous growth of the neck.

As a young man he did epochal work in the surgery of gunshot wounds of the intestines. This, especially, attracted attention to his ability. It brought to him opportunities that eventuated in the eminent teaching position which, in association with those other masters of surgery, Robert F. Weir and Charles McBurney, he occupied for many years at the New York College of Physicians and Surgeons. His important contributions to appendicitis, hernia and many other subjects, clinical and operative, are too well known to need repeating here.

His unfailing consideration of his colleagues and his modest estimate of his own services won for him a remarkable following in the profession and among the laity, and he was still very active in his practice when his recent illness overtook him.

The loss of Bull, the eminent surgeon and inspiring teacher, is great indeed. But Bull, the man, Bull, the prince of colleagues, will be mourned, and his memory will be cherished until his last patient, his last associate, shall have joined him in the great army of the dead.—*American Journal of Surgery.*

Correspondence.

The Editor cannot hold himself responsible for any views expressed in this Department.

THE ACADEMY OF MEDICINE MILK COMMISSION.

To the Managing Editor, CANADIAN JOURNAL OF MEDICINE AND SURGERY:

Dear Sir,—In this month's number of your JOURNAL, in the editorial concerning the Milk Commission of the Academy of Medicine, Toronto, there are a few inaccuracies to which I would like to call your attention, particularly as my name appears there. Why you single me out for mention any more than the other five members of the Commission, who have worked equally hard with myself, I do not know.

Our requirements, in part, are:

1. That the whole herd shall be tuberculin tested *twice* a year, not *once,* as you mention.

2. That the milk shall contain 4 per cent. butter fat, with an allowed variation of ½ per cent. greater or less than the 4 per cent. The same may be said of the proteids—not a variation of 1 per cent., as you mention.

3. That the maximum acidity shall not exceed .2 per cent., not 2. per cent., as you mention.

4. That the milk must not be heated, neither must it be frozen.

5. That the Veterinary Inspector shall visit the dairies whenever the Commission (not the Inspector, as you mention) desires. The Commission advises that all cows be clipped about udder and abdomen, and that the udder and teats be scrubbed before each milking, not once daily.

You are in error in saying that we have ordered certain tuberculous cows to be slaughtered. We have no authority to issue such an order. We insist, however, that the condemned cows shall be immediately removed from the stable in which are the cows producing certified milk.

It is possible now for us to secure for our infants, invalids, convalescents and young growing children a quality of milk which we can unhesitatingly recommend.

Yours truly,

Henry T. Machell.

95 Bellevue Ave., March 10, 1909.

News of the Month.

CANADIAN MEDICAL ASSOCIATION.

THE Forty-second Annual Meeting of the Canadian Medical Association will be held in Winnipeg, Man., on the 23rd, 24th and 25th of August, 1909. Every member is invited to be present and take part in the programme. In order to make arrangements for accommodation, members intending to be present should communicate at an early date with Dr. Harvey Smith, Secretary of Committee of Arrangements, Canada Life Building, Winnipeg. Information with regard to rates, provisional programme, etc., will be sent out in the Annual Circular about July 1st.

The Finance Committee, according to the By-Laws of the Association, Section IV, page 12, have fixed the Annual Fee at $5.00.

THE ONTARIO MEDICAL ASSOCIATION.

The following circular has been sent to the profession recently, giving some interesting details regarding the meeting of the Ontario Medical Association next June.

The Committee on Papers and Business of the Ontario Medical Association wish you to keep in mind the Annual Meeting, which is to be held in Toronto this year on June 1st, 2nd and 3rd. They are very desirous of making this meeting the largest and most successful in the history of the Association. You are particularly requested to endeavor to increase the attendance by inducing both old and new members to come.

The Association will again divide into sections, so that as large a number of papers as is possible can be arranged for. Papers have already been promised by a number of distinguished members of the profession, but the list is not yet complete. If you have any subject upon which you wish to present a paper before the Association, kindly notify the Secretary at once. The titles of all papers must be sent to the Secretary not later than March 1st. All abstracts must be in the Secretary's hands not later than April 15th, in order that copies may be sent to those who may be asked to enter into the discussion.

Time-limit of papers:—The rules of the Association limit the time allowance in sections to fifteen minutes for the reading of any paper. If too lengthy to be read in that time, an abstract may be given.

Each participant in the discussion is allowed five minutes. H. J. Hamilton, President; E. Stanley Ryerson, Secretary, 243 College St., Toronto.

We trust that the profession will attend this year's meeting *en force.*

THE OSLER COLLECTION OF PORTRAITS AND ENGRAVINGS.

In our March issue we unfortunately made an error in stating that Mr. E. B. Osler, M.P., had personally selected the beautiful collection of portraits and engravings which he recently presented to the Academy of Medicine, Toronto. We are given to understand that this is hardly correct, and that the selection itself was made by Professor William Osler, Regius Professor of Medicine at Oxford University, for his brother, who in turn presented them to the Academy.

A NEW HOME FOR TUBERCULOUS PATIENTS.

That beautifully appointed hotel—the Minnewaska—located on the outskirts of the town of Gravenhurst, on the shores of Lake Muskoka, was opened for patients on March 3rd, ult. The Hotel and the Resort need no introduction to Canadians.

The Minnewaska has been purchased by Mrs. E. Gertrude Fournier, a Canadian who has won renown in the nursing profession of the United States. After graduating at the Harper Hospital, Detroit, she was appointed Principal of the Training School, and Matron at the Ann Arbor University Hospital. She gave up that post to become Principal of the Training School, and Superintendent of Hope Hospital, Fort Wayne, Indiana, which post she filled with credit to herself and profit to the Hospital for ten years, resigning in December last. During her residence in Indiana she was for five years President of the State Association of Nurses, and is now a Director of the Association of Superintendents of Training Schools for Nurses, a Director of the Nurses' Associated Alumnae of the United States, as well as a member of the Editorial Board of the *American Journal of Nursing.*

The Minnewaska is well adapted to the care of tuberculous cases. There is a large verandah accommodation overlooking the lake, and many of the rooms have private verandahs. The patients will be under the medical supervision of our old friend, Dr. Chas. D. Parfitt, who needs no introduction to the medical profession in Canada. As is well known, he has for the past eight or ten years been so closely identified with the progress made in the care of tuberculosis, that anything we might say about his ability and skill would be quite superfluous. It should be a com-

fort to the friends of patients, as well as to the patients themselves, to know that there is now a place where such cases may go and be assured of intelligent nursing and proper medical supervisio"

VISITING TRAINED NURSES FOR TUBERCULOSIS CASES.

THE Board of Trustees of the Muskoka Free Hospital for Consumptives, Gravenhurst, and the Toronto Free Hospital for Consumptives, near Weston, have secured the services of a trained nurse to act as visiting nurse throughout the City of Toronto, visiting homes where members of the family may be found suffering from Tuberculosis.

This nurse, with her special knowledge of the dangers of infection through tuberculosis, will be able to render valuable assistance in preventing the spread of the disease in the home, and will either be able to secure the removal of the patient to one of the Consumptive Hospitals, or in such cases where this is impossible, she would be able to minister to the needs of the patient in furnishing the necessary comforts and required care.

OF GENERAL INTEREST TO THE MEDICAL PROFESSION.

THE papers and their discussions before the American Medical Editors' Association at the Chicago meeting last June are not alone of interest to those journalistically associated, but to the profession at large. Many pertinent and important subjects are presented and discussed, of which we would mention:—"Twenty-five Years in Medical Journalism" (President's Address); "Ethics of Commerce"; "The Application of Journalistic Methods to Journalism"; "The Medical Journal from the Standpoint of an Outsider"; "Editorial Individuality"; "Medical Book Reviews"; "Source of Inspiration for Editorials"; "The Human Element in Medical Journalism"; "The Modern Era of Medical Journalism in America. The Twenty-fifth Anniversary of the Establishment of the Journal of the American Medical Association"; "The Functions of the State Association Journal"; "The Future of the Independent Medical Press"; "What Medical Journals can do to Reform Medico-Legal Inquiries"; "Scientific Journal Editorials"; "Non-Scientific or Utilitarian Editorials"; "The Spirit of 1908"; "Relation of the Medical Journals to the Profession and Advertisers." These transactions are in book form, paper cover, and will be sent postpaid upon receipt of 50 cents. Address Secretary American Medical Editors' Association, 92 William Street, New York, U. S. A.

Physician's Library

Hydrotherapy. By Simon Baruch, M.D. Published by Wm. Wood & Co., 51 Fifth Ave., New York. 1908.

Dr. Baruch's Hydrotherapy, third edition, is a fit sign of the progress which hydrotherapy is making towards its rightful position in our therapeutics.

The chapters dealing with Phthisis and Insanity show marked development in hydrotherapy as applied to these conditions. The technique of treatment is here, as in other parts of the book, clearly given, and puts this method of treatment within reach of every physician.

The explanations and facts set forth should convince any physician of the curative value of water when properly and scientifically applied.

For the student the book is invaluable, not only for the ground which is covered, but also for the clear explanation which is given.

For the practitioner, it helps to fill a long-felt want in the profession for an adequate work on hydrotherapy.

The edition of the book reflects great credit on the publishers. Messrs. William Wood and Company, from whom copies may be obtained. D. C. M.

Backbone. Hints for the Prevention of Jelly-Spine Curvature and Mental Squint. A Straight-up Antidote for the Blues and a Straight-ahead Sure Cure for Grouch. Collected from various sources and arranged by S. DeWitt Clough. Ravenswood, Chicago. December, 1908.

Any of our readers who have not as yet procured a copy of Mr. S. DeWitt Clough's book entitled "Backbone" should do so without delay. It is not only clever, but replete with suggestions that can only be useful in one's daily life. In fact, we do not know that we can describe its contents any better than in the words appearing on the title-page, "Hints for the Prevention of Jelly-Spine Curvature and Mental Squint. A Straight-up Antidote for the Blues and a Straight-ahead Sure Cure for Grouch."

One paragraph from "Backbone" struck us as being worthy of repetition. It is entitled "Self-Confidence." "There is one sort of man for whom there is no place in the universe, and that is the wobbler, the man on the fence, who never knows where he stands, who is always slipping about, dreaming, apologizing, never

daring to take a firm stand on anything. Everybody despises him. He is a weakling. Better a thousand times have the reputation of being eccentric, peculiar, and cranky, even, than never to stand for anything." We congratulate the author upon the publication of the book, the sentiment of which is the very best.

W. A. Y.

A Text-Book of Diseases of the Nose and Throat. By D. Braden Kyle, A.M., M.D., Professor of Laryngology and Rhinology, Jefferson Medical College; Consulting Laryngologist, Rhinologist and Otologist, St. Agnes' Hospital; Fellow of the American Laryngological Association, etc. With 219 illustrations, 26 of them in colors. Fourth edition, thoroughly revised and enlarged. Philadelphia and London: W. B. Saunders Company. Canadian agents: J. A. Carvet' Co., Ltd., Toronto.

This book has already found a place in the library of nearly all nose and throat specialists, because it contains so many good features not always found in special works. One will not find any "fads" or untried schemes or remedies advocated, but he will find thoroughly explained measures that the author has proved of value. The pathology and treatment in this book is very full, and especially is the latter made so comprehensive that one will find a great variety of remedial measures from which he will be able to select those suitable to any peculiar case. In describing special operations and methods, the author has very wisely given *verbatim* the original articles. Braden Kyle's book will always be resorted to when one is looking for obscure points in managing some difficult case. The general practitioner will secure all the information he wishes, given with a full appreciation of the importance of a consideration of the entire body in cases where symptoms point to diseases of the nose and throat alone. P. G. G.

Wellcome's Photographic Exposure Record and Diary, 1909. Wellcome's Photographic Exposure Record and Diary for 1909, in spite of the apparent perfection of previous editions, contains several new and interesting features.

The article on exposure is remarkable for the large amount of definite information condensed into its 28 pages. This is secured by confining attention to points which are of real importance to the photographer in practice. In fact, the practical nature of the information throughout the book is one of its outstanding features. Obviously, it is compiled by those who know precisely what information the photographer needs in his work, and understand the art of presenting practical information without waste of words.

Two new features of the exposure article are the inclusion of a speed test for over 80 bromide papers and lantern slides. The

list is, we believe, quite unique, and gives information which is not obtainable elsewhere. It will be of great utility to photographers who use more than one make of paper or plate for different purposes or effects, because, when once the correct exposure has been found for any bromide paper or lantern plate in the list, that for any other speed or make can be ascertained at a glance without further trial or waste of material.

A Text-Book of Diseases of Women. By CHARLES B. PENROSE, M.D., formerly professor of gynecology in the University of Pennsylvania. Sixth revised edition. Octavo of 550 pages, with 225 original illustrations. Philadelphia and London: W. B. Saunders Company, 1908. Canadian agent: J. A. Carveth & Co., Limited, Toronto. Cloth, $3.75 net; half morocco, $5.25 net.

The sixth edition of this work bears so close a resemblance to the fifth, in text, illustration, size, etc., that one wonders in what the difference between them consists, and this calls for search. There are differences, for, in gynecology, the last word is never said. A new edition, which appears four years after its predecessor, speaks well for the popularity of the author with medical students and practitioners. Dr. Penrose is a safe teacher. His practice of advising but one method of treatment for each disease he describes is helpful to the student. J. J. C.

A Reference Handbook for Nurses. By AMANDA K. BECK, Graduate of the Illinois Training School for Nurses. Second edition, revised and enlarged. 32mo. of 209 pages. Philadelphia and London: W. B. Saunders Company, 1908. Flexible leather, $1.25 net. Philadelphia and London: W. B. Saunders Company. Agents for Canada: J. A. Carveth & Co., Limited, Toronto.

After glancing through the second edition of Miss Amanda K. Beck's "Reference Handbook for Nurses" we feel that we can honestly congratulate her upon her work. The second edition shows careful revision, and a good deal of new material has been added. The new material consists of somewhat lengthy additions to the chapter on "Weights and Measures" and also to that on "Solutions." A very practical chapter is also to be found on "Toothache and its Treatment," something that will be found by the readers of this book as very useful. The illustrations are also fairly good, though it might have been better had they partaken of the nature of half-tones. The diagrams of the fetal circulation and the eruption of the teeth are quite creditable, and, altogether, we think that nurses will find this book exceedingly useful in their work. W. A. Y.

The Urine and Clinical Chemistry of the Gastric Contents, the Common Poisons, and Milk. By J. E. HOLLAND, M.D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College of Philadelphia. Forty illustrations. Eighth edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1909.

After glancing over Dr. Holland's little book, we can certainly recommend it to practitioners in general. It will be found, of course, to be of greatest value to those taking a special interest in clinical chemistry; but it contains a great deal of information that will be found useful to all. The book is inexpensive and certainly worth the price charged.

A Reference Handbook of Gynecology for Nurses. By CATHARINE MACFARLANE, M.D., Gynecologist to the Woman's Hospital, Philadelphia. 32mo. of 150 pages, with original line-drawings. Flexible leather, $1.25 net. Philadelphia and London: W. B. Saunders Company. Agents for Canada: J. A. Carveth & Co., Limited, Toronto.

Dr. Catharine Macfarlane's Handbook of Gynecology should prove of very practical benefit to members of her profession. Her book is a small one, but will be found very handy to nurses, as it can be carried around in the pocket. The work is a result of a series of lectures on Gynecology delivered by the author to the nurses of the Women's Hospital, Philadelphia. The author gives in detail the preparation for operation, operative technique and post-operative treatment as followed by her chief, Dr. Caroline N. Purnell. We can recommend the book to members of the nursing profession, the price being very reasonable, but $1.25 net per copy. W. A. Y.

A Text-Book of General Bacteriology. By EDWIN O. JORDAN, Ph.D., Professor of Bacteriology in the University of Chicago, and in Rush Medical College. Octavo of 557 pages, illustrated. Philadelphia and London: W. B. Saunders Company. 1908. Cloth, $3 net. Agents for Canada: J. A. Carveth & Co., Limited, Toronto.

As a result of a course of lectures delivered to the students in the University of Chicago, this text-book was written. It treats of the subject in a general way, not being intended for the advanced worker. Yet it is quite full enough for the medical student or for those in search of general scientific knowledge. There is a useful and interesting article on the bacteriology of milk and milk products, also one on bacteria in the arts and industries. An appendix has been added which treats of infectious diseases of un-

known causation, as small-pox, rabies, scarlet fever, etc. The illustrations are numerous and clear. W. H. P.

The Cure of Rupture by Paraffin Injections. By CHARLES C. MILLER, M.D. Comprising a description of a method of treatment destined to occupy an important place as a cure for rupture owing to the extreme simplicity of the technic and its advantages from an economic standpoint. Chicago: Oak Printing Co., 9 Wendell Street. 1908.

This small book, from the pen of Dr. Chas. C. Miller, and which recently reached our desk, is worth reading. It consists of several chapters regarding the treatment of hernia by the injection method. One short chapter deals with "Operation without anesthesia a great advantage," the other chapters dealing with the preparation of the skin before operation, the preparation of the hands of the operator, the preparation of the syringe, the preparation of the paraffin, the posture of the patient for the injection, the effect of paraffin compounds upon the tissues, the immediate after-effects of paraffin injection, the precaution to be used to prevent throwing the paraffin into the circulation, factors to be considered in dealing with inguinal hernia, as well as other chapters of similar interest. Dr. Miller's book is worthy of perusal. W. A. Y.

Oxford Medical Annuals. Diseases of the Eye. By M. STEPHEN MAYOR, F.R.C.S., Assistant Surgeon and Pathologist, Central London Ophthalmic Hospital. 119 original illustrations. Henry Frowde, Oxford University Press. Toronto: D. T. McAinsh & Co. $1.50.

This is essentially a student's book. Handy in size and shape, good type on good paper, it will appeal to him. For a book of its size it is strong in pathology. The inflammations of the conjunctiva are dealt with upon a bacteriological classification. The author is to be congratulated on the good judgment he has shown both in what he has left out and what he has put in. He evidently has an excellent idea of what the undergraduate medical student should know about the eye and its diseases. J. M.

Blood Examination in Surgical Diagnosis. By IRA S. WILE, M.D. New York: Surgery Publishing Co. 1908.

This is a most useful and complete volume of 161 pages treating on the diagnostic and prognostic values of blood examinations, particularly in surgical conditions. The chapters dealing with the technique of the various examinations is clearly written, is concise, and fulfils the requirements of students and practitioners alike. Jenner's method of staining is advocated, and the colored

plate corresponds with the descriptions in the text. The interpretation of the differential count of leucocytes is most carefully discussed, and its value in prognosis in various surgical conditions, septic and otherwise, clearly shown. In this connection as elsewhere the importance of correlating clinical history with laboratory findings is emphasized. The latter half of the book is given to consideration of the blood in various special conditions. A most helpful chapter is given to observations in obstetrical and gynecological practice, and other chapters deal quite as thoroughly with the value of blood examination in syphilis, differentiation of bone and joint diseases, malignant disease and many other pathological states. The black and white drawings are well made and clearly illustrate the structures described. The book does not in any sense replace the more general treatises on laboratory methods in diagnosis, but furnishes much information not found in such works. M. H. V. C.

Oxford Medical Publications. Selections from the writings, medical and neurological, of Sir William Broadbent, Bart., K.C.V.O., Commander of the Legion of Honor, M.D., F.R.C.P., F.R.S.; D.Sc., Leeds; LL.D., Edinburgh, St. Andrews, and Toronto; late Physician in Ordinary to H.M. the King, and to H.R.H. the Prince of Wales, and Physician Extraordinary to H.M. Queen Victoria; late Physician to St. Mary's Hospital, and to the London Fever Hospital; Past President of the Clinical, Medical, Neurological and Harveian Societies; President of the British Medical Benevolent Fund; First President of the Entente Cordiale Medicale; First Chairman of the Council of the National Society for the Prevention of Consumption. Edited by Walter Broadbent, M.D., M.R.C.P. London: Henry Frowde, Oxford University Press; Hodder & Stoughton, Warwick Square, E.C. Toronto: D. T. McAinsh & Co. 1908.

These selections from the writing of Sir William Broadbent do not include any of those used as the basis of his books on "The Pulse and Heart Disease." They do contain, however, his last completed paper on "The Examination of the Heart."

The name of Sir William Broadbent is so well known to every medical man of the present day in almost every part of the civilized world that this book needs little if any recommendation. The papers that it contains are of an excessively interesting character, being, in most cases, parts of clinical lectures or of papers written for journals, and make together a book that can be at any time taken up and read with interest and with advantage, and, it may also be said, with pleasure by every general practitioner. The book is nicely got up, print is large and clear and

easily read, and the papers are not so long but that the busy practitioner can read them in his leisure moments. It is a book that is full of the most valuable hints to the medical practitioner, valuable because we have them grouped together here in a number of short, pleasantly-written papers; and doubly valuable because these hints are given where they can be most appreciated, viz., where they explain obscure parts of the clinical pictures.

A. J. J.

Seven Hundred Surgical Suggestions. Practical Brevities in Surgical Diagnosis and Treatment. By WALTER M. BRICKNER, B.S., M.D., Assistant Adjunct Surgeon, Mount Sinai Hospital, New York; Editor-in-chief, *Americal Journal of Surgery;* ELI MOSCHCOWITZ, A.B., M.D., Assistant Physician Mount Sinai Hospital Dispensary, New York, and HAROLD M. HAYS, M.A., M.D. Third Series. Duodecimo; 153 pages. New York: Surgery Publishing Co., 92 William St. Price, semi-de-luxe, $1.00; full library de luxe, ooze leather, gold edges, $2.25.

The evident intention of the publishers of this book is, that we should begin the review already prepared for us by stating that "this volume is literally packed full of useful and valuable information for the general practitioner and surgeon." Perhaps the fact that it is packed so full makes it decidedly dry reading. We remember once picking up a book entitled, "Five Hundred Jokes," and upon sitting down to enjoy some of the five hundred we found it the tamest and driest stuff we had read for many a long time. While, no doubt, there are many useful hints among the seven hundred surgical suggestions, yet to our way of thinking it is not a class of literature that tends to the uplifting of the medical profession.

F. N. G. S.

The History of the House of Merck.—We were recently favored with a copy of an illustrated pamphlet from E. Merck, Darmstadt, Germany. It gives a history of The House of Merck, which has existed in all for two hundred and forty years. "The connection of the name of Merck with chemistry dates back to August 26th, 1668, when Friedrich Johann Merck entered into possession of The Engelapotheke in Darmstadt and was granted the right to exercise his profession by the then reigning Land grave, Ludwig VI. of Hesse." The pamphlet is freely illustrated with half-tone illustrations of the works, and is most interesting and instructive.