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NO. I.

Original Contributions.

MEDICAL INSPECTION OF SCHOOL CHILDREN.*

BY W. F. CHAPMAN, B.A.,
Inspector of Public Schools, Toronto.

THIS is an age when more value is placed on the child than in any former age. Just as the twentieth century is to be Canada's century, working to her great development, so also is this century to be the child's century looking to the progress that will be made in giving every child the greatest opportunity for its best development. As the best physical conditions are necessary to the highest mental and spiritual development, everything that makes for the best bodily condition of the child enters into and forms an important part in a system of education that is intended to be a full and harmonious development of man's triple nature—the physical, the mental, and the spiritual. The last decade has seen considerable progress along the line of discovering the physical handicap from which many school children suffer, and of remedying in whole or in part this disability. Many children have been blamed in the past for stupidity and incorrigibility who of themselves were innocent of either, but were sufferers from some physical defect brought on by neglect or heredity. It is the object of this paper to summarize what has been, and is being, done, to note the good results, and to suggest further extension of the work.

The first country to have medical inspection of schools was France. It was established by law in Paris in 1843, but, like many other philanthropic movements, made little progress at first.

* A paper read before the Inspectors' Department of the Ontario Educational Association.

Some of the large cities of Germany and England have medical inspection of schools. It is, however, for the New World to take up the question, and, with that energy which marks New World enterprise, carry it to success.

Boston was the first city on this side of the Atlantic to adopt it, in 1894. Quickly the good work spread, until to-day many of the cities of the United States, and a few in Canada, have a more or less complete system.

New York has probably the most highly developed system in the world, with Philadelphia a close second. New York introduced the system in 1897, and has perfected it, so that since March, 1905, the system provides for a complete physical examination of every school child. New York has not only a large staff of physicians, with their districts and duties specifically assigned, but also a special corps of trained nurses, who, besides giving treatment for parasitic and contagious skin diseases, visit the homes to see that the doctor's orders are being followed, and to give instruction and practical assistance when necessary.

The following interesting and complete *résumé* of the system in Philadelphia is from a paper by Professor G. H. Heitmuller, A.B., M.D., published in *Washington Medical Annals*, March, 1907: "The System in Philadelphia is divided into:

"1. Sanitary inspection of buildings.

"2. Systematic examination of pupils.

"In sanitary inspection of buildings the following points are noted: (a) Overcrowding, the cubic capacity of each room, number of occupants. (b) Heating and ventilation: If steam or hot water, is there provision for ventilation by direct or indirect method? Give temperature of air in rooms at time of visit, also maximum and minimum temperature. (c) Illumination: Are rooms well lighted? If from above, behind, etc. Number of windows, size, relation to pupils and to floor space. (d) Are buildings ordinarily clean? Are there accumulations of sweepings on grounds, in cellars, etc.? Is ice and snow promptly removed? (e) Drinking water: Is raw, filtered, or sterilized. What provision for drinking vessels? Note condition of all sinks, plumbing, etc. (f) Toilets: Note condition of water closets and urinals, especially with regard to cleanliness, odors, etc. Give number and location of closets and urinals and state if sufficient for pupils using same. (g) Coat rooms: Note facilities for storing, whether lockers, whether one or more coats, hats, etc., hang on single hook; also ventilation. (The cloak rooms in the vast majority of Washington schools have no lockers or special means of ventilation, and consequently the odor is often very offensive.) (h) Cellars: How lighted, ventilated? Are they clean, whitewashed, dry? (i) Playgrounds: Give size and condition, also condition of sand pile. Are they adapted

to needs of pupils? (j) Note character, quantity, and quality of cakes, candies, fruits, etc., sold about school to pupils.

“INSPECTION OF SCHOOL CHILDREN.

“Exclude every child suffering from (a) Acute disease, be it contagious or not. (b) Any form of disease that may be a menace to other children with whom it comes in contact. (c) Any disease of sufficient gravity to seriously impede work of the pupil at school. (d) Exclude every child who does not show evidence of successful vaccination.

“Systematic examination of all pupils for defects of vision: myopia, hyperopia, strabismus, and astigmatism.

“Defects of hearing: test with watch and rule, inspect auditory canal.

“Deformities: spinal curvature, flat foot, etc.

“Ophthalmic diseases: acute and epidemic conjunctivitis and trachoma.

“Throat and nose disease: mouth breathing, nasal discharge, adenoids, hypertrophied tonsils.

“Cutaneous diseases; impetigo, itch, etc.

“Chest diseases: phthisis, bronchitis, asthma.

“Parasitic diseases of scalp and elsewhere.

“A routine culture is made in all cases of sore throat.”

Besides Boston, New York, and Philadelphia, which have daily visits, many other cities have bi- and tri-weekly, or less frequent, according to conditions or the call of the principal.

Some cities have a system of eye examination by the teachers, sometimes under the direction of oculists.

Montreal has lately added the system of nurses after the Medical Inspector, Dr. Laberge, had made a personal investigation into the merits of the New York system. The Board of Education in Hamilton, in April, 1907, appointed Dr. James Roberts Medical Inspector of Schools.

In Toronto an experiment is being tried of having the teachers do the work under the guidance of Dr. Sheard, the Medical Health Officer of the city, but I know of no other city where the teachers are called upon to do the work. The teacher has not the technical knowledge required, and the teacher's duties are sufficiently arduous without this additional burden. While this system will result in some good results, especially along the line of aiding defective vision, to call it medical inspection is somewhat of a misnomer.

Having thus indicated what progress has been made in establishing the system, we may now consider the net value of the result. Among the many advantages that result from medical inspection of school children are the following:—

(a) The prevention of the spread of communicable diseases

by excluding from school those contagious cases that are in their incipiency and have not been recognized by parents.

(b) The placing of every child in the most favorable condition for progress by remedying, wholly or partially, those defects which retard a normal physical and mental growth.

(c) The securing of greater protection of other children, and the giving of medical advice, especially as regards defective vision, defective hearing, and defective breathing.

Whenever a systematic test has been made of children in city schools a surprisingly large percentage are found to be suffering from defective vision, and a considerable number from defective hearing. Many statistics are at hand to verify this. The teachers in our schools have knowledge of many such cases without applying careful, rigid tests.

Many pupils who are restless, inattentive, and dull are suffering from some physical defect, or mal-nutrition, and these may by a little medical attention be transformed into bright and happy children, with a new life before them. There are also the mentally defective, who require special treatment and teaching.

Special classes for defective children were first established by Principal Haupt, with the concurrence of his School Board, in 1759, in Halle, in Prussian Saxony. It was quickly demonstrated that the isolation of these unfortunate children into small classes, taught by teachers of special qualifications, was a rational, just, and most humane treatment.

In the year 1899, the City School Superintendent of Mannheim, Dr. Sickinger, introduced a system of "instruction groups," having each an individual character. In addition to those classes for pupils capable of doing normal work, special classes known as "repeating" or "furthering" classes were formed for those who, from inadequate ability, could not be promoted, for if they were they would be "dregs" or "ballast" in the higher classes. For these a special goal is set, and they receive more individual attention, for the classes are smaller. If, however, it is found that a child is so meagerly endowed mentally that he is not being benefited in a "repeating" class, he is transferred with the aid of the school physician to an auxiliary school class. In the school year 1904-05 there were four of these classes in existence, with a total of 67 children. There would thus be a smaller percentage of pupils in the auxiliary classes in Mannheim than in Halle, owing to the sifting process through the "repeating" classes.

When a pupil is transferred to one of these special classes, called also "repeating," or "furthering" classes, he presents a transfer card conveying the following information, certified by his former teacher:

1.—PERSONAL HISTORY OF THE CHILD.

Name of child.
Date of birth.
Place of birth.
Religion.
Name of father or guardian.
Position of father or guardian.
Parents' residence.

2.—HOME CONDITIONS OF THE CHILD.

Are both parents still living?
Has it a stepfather, stepmother, only a father, only a mother?
Is it an orphan, and under some one's care?
Is its education and care neglected?

3.—PREVIOUS SCHOOL ATTENDANCE.

Has it attended only this school?
Did it come from some other place? (From what school, class, and in what school year was it?)
Was its attendance in any class irregular? (Why?)

4.—THE CHILD'S BACKWARDNESS.

In what classes did it remain more than one year? (State briefly in what subjects its work was unsatisfactory.)

5.—REASON FOR ITS BACKWARDNESS.

On account of lack of talent?
On account of lack of application?
Other causes (illness, transfer, home conditions)?

6.—FORMER DISEASES AND ACCIDENTS.

Fits? St. Vitus' Dance? Brain troubles? Head injuries?
Rickets? Dizziness? Diphtheria? Measles? Scarlet fever?
Whooping Cough? Etc.

7.—PHYSICAL ANOMALIES AND SIGNS OF DEGENERATION.

Signs of paralysis? Headache? Speech? Hearing? Eyesight? Organs of smell? Swelling of glands? Trembling and twitching of muscles? Curvature of the spine? Malformation of the limbs? Chronic diseases? Etc.

8.—PSYCHICAL PECULIARITIES.

Cleanly? Attentive? Good-willed? Sociable? Mendacious? Thievish? Dull? Excitable? Irritable? Sensitive?

Passionate? Whimsical? Bashful? Lazy? Imaginative?
 Forgetful? Superficial? Mean? Etc.

9.—SPECIAL INCLINATIONS AND ABILITIES.

Singing? Writing? Drawing? Arithmetic? Hand-
 work? Etc.

10.—GRADE OF SCHOOL-WORK REACHED.

It is very evident that this whole subject of special classes for defective children is fraught with difficulties and requires most careful and delicate handling. Parents naturally resent any suspicions regarding the mental disability of their children, and if these auxiliary schools are ever held up to scorn in any way, or are dubbed "mad schools" or "dunce schools," the whole system becomes unworkable.

The limits of this paper forbid a more extended reference to the work of these special classes, but enough has been given to show the close relationship existing between medical inspection of school children and the formation of these classes. For the facts regarding the schools of Halle and Mannheim, the writer is indebted to a late Bulletin from the Bureau of Education, Washington, entitled "The Auxiliary Schools of Germany," by Doctor Maennel, which gives a complete history of their growth and good work.

There has just been printed by order of the Legislative Assembly of Ontario, a most interesting and instructive report by Dr. Helen MacMurehy, of Toronto, on "The Care of the Feeble-Minded in Ontario." Dr. MacMurehy is an enthusiast in sociological work, and has spared neither time nor energy in collecting definite information on this important subject. I ask your indulgence while I read a short paragraph from her report:

"MENTALLY DEFECTIVE CHILDREN IN OUR SCHOOLS.

"The Department has communications from forty-five different people in the Province in reference to this branch of the enquiry. There can be no doubt that here is the place to concentrate our attention and energy. The problem must be studied in the school-room. Dr. Potts, one of the investigators specially appointed by the Royal Commission in Great Britain, examined 31,092 school children in the 'Pottery Towns' of England. He found 185 of the number mentally defective, or about .59 per cent. Dr. Francis Warner, in an examination of 100,000 children in London, showed that one per cent. were mentally defective, and other authorities have published statistics to show that about two per cent. of the elementary school children in certain large cities will never be able to manage their own lives successfully on account

of mental deficiency. This seems appalling, and perhaps the most important lesson we can learn from it is the necessity of our dealing with the question *now* while we have nothing like that number. If we let this time pass and defer and delay to face the question, the number will inevitably increase until we lose the present opportunity and come to feel, as they do in England, that the problem is so utterly overwhelming that it cannot be dealt with successfully. From the statistics now before me, I have reason to think that the number of mentally defective children of school age in Ontario is somewhere between three and five per thousand, that is, .3 to .5 per cent. of the total population under 14. But it is difficult to form a correct estimate at present. We need very much a better enforcement of our Truancy Laws. It seems to be generally agreed that there are many children of school age who are not in school, and, of course, one cannot wonder that the backward and mentally defective children, who feel they are not wanted there, and for whom nothing much is attempted to be done in our schools at present, are the first to stay away. It is very important to differentiate between a child who is only backward, and one who is mentally defective. 'A mentally defective child would be abnormal for any age, whereas a backward child is merely abnormal for its own age.' A child is often backward because he does not see well, or does not hear well, or does not breathe or develop well on account of adenoid growths almost closing the breathing passages and thus preventing the purifying of the blood. He may be backward because he works long hours out of school, or because he is not properly fed, or because he is not well. The School Doctor, when Medical Inspection of Schools, now permitted and advised in this Province, is carried out, will save and help many backward children and mentally defective children. But while skilled medical aid to sight or hearing or breathing may, and often does, change a backward child into a normal child, no skill, no knowledge, no training—nothing—will ever change a mentally defective child into a normal child. What can be done is to make the most of the powers and capacities the mentally defective child has—to train the bodily powers, the hand, the eye,—the power of working, and place the child who will always remain a child in mind, though not in body, in the society of its equals, in a sheltered corner of the world, that is, an Institution, where conditions are adapted to it. The life history of the mentally defective children in our Public Schools to-day may be written down in outline just as soon as their mental defect has been accurately recognized, or, to speak medically, diagnosed."

From what sources comes the demand for Medical Inspection?

1. Such work is a strong ally of Boards of Health. Unless

rigid and continuous preventive measures are taken, the school is a powerful agency for the spread of contagious diseases.

2. Teachers feel the need, and welcome the physician's aid.

3. Parents give no opposition when they understand the matter, and soon appreciate highly the object sought to be attained.

Naturally the need of Medical Inspection is greatest in the large cities, where the population is much congested. Urban schools, likewise, call more loudly for the system than do the rural, but there is a need, to a greater or less degree, everywhere, and the progressive colony of Tasmania has lately established the system of medical inspection in the rural schools.

Before concluding, I desire to read a few of the many testimonies of School Superintendents and Health Officers as to the value of Medical School Inspection where the system has had a fair trial. These reports came to me last May in response to a series of inquiries. They show the practical working of the system and its popular approval.

In reply to your enquiry of May 18th, I may say that we have had systematic medical inspection in the Public Schools of this city for the past eight years.

We have one medical inspector, who gives practically all his time to the work. This inspector is a regular physician of wide experience; he is likewise a member of the Board of Health. His work has been of very great service to the schools, so great, in fact, that we feel that we could scarcely do without it.

JAMES E. BRYAN, *Superintendent.*

Camden, N.J., May 23rd, 1907.

In reply to your recent letter concerning Medical Inspection in our Public Schools, I beg to say that our Board of Health appropriated \$10,000 at the beginning of the current year for this purpose. Twenty-one district physicians were named to inspect the schools. Pupils suspected of having contagious disease are sent to the office by the teachers and there examined privately by the district physician. The principal has power to exclude pupils on the order of the district physician.

F. D. DYER, *Superintendent.*

Cincinnati, May 25th, 1907.

Medical inspection is carried on in the schools of Hartford directly by the Board of Health, operating so far as exclusions from school are concerned in connection with the Board of School Visitors. It has been carried on for about eight years, and has been very successful in preventing the spread of contagious and infec-

tious diseases among school children, and, of course, throughout the city.

Three inspectors are employed, physicians of repute, who devote about two hours each day to the work, visiting the schools, all of them at least once a week. Children found to have suspicious throats, diphtheria bacilli, scarlet fever scale, measles in early stages, etc., are excluded; also children with parasitic diseases of the head, vermin, and recently those who are in a filthy condition, are also excluded. The Board of Health, through its inspectors, traces these children up until something is done in the way of cleaning up, getting rid of vermin, etc. Unless parents are observant of the recommendations of the Board of Health in this regard, they are taken before a magistrate and fined.

THOMAS S. WEAVER, *Superintendent.*

Hartford, May 20th, 1907.

The medical inspection of schools in the city of Indianapolis is in charge of the Department of Public Health and Charities. There are twenty-four physicians, who are assigned one or two schools, according to the size of the school. They are expected to make one inspection per week, and such other inspection as the principal may desire. We find that considerable assistance is given the Health Department in the early recognition of infectious and contagious diseases. The inspectors are not permitted to prescribe or suggest any line of treatment, but must refer the child to the family physician.

EUGENE BUEHLER, M.D., *Health Officer.*

Indianapolis, May 21st, 1907.

We have had a regular system of medical inspection in the Paterson schools for the past ten years. This work is done by six Paterson physicians. Each of these six physicians calls at four schools every day. The principals and teachers of the schools send to the waiting room all pupils that they think the physician should see. We have recently added to the force one inspector, who will give close attention to the eyes of the children. Inspectors receive \$250 a year.

JOHN R. WILSON, *Superintendent.*

Paterson, N.J., May 23rd, 1907.

In reply to your letter of the 18th instant, permit me to say that we have regular medical inspection of our Public School children in Philadelphia, and that it is in its third year of operation. The work is under the supervision of this bureau, and is done by a corps of fifty inspectors, all of whom are graduates of medicine. The advantages of the work are manifold: First, in detect-

ing children suffering from contagious diseases in their incipiency, and their prompt exclusion from school; next, in detecting children that are suffering from any malady that impedes their progress, and who should be receiving medical care; and, third, in detecting children who, while physically or mentally defective, are not suffering from such ailments as would require their exclusion from school, but who should be under a doctor's care.

Since the organization of the work in Philadelphia it has grown in such favor that I do not believe the public would now consent to its abandonment.

A. C. ABBOTT, *Chief of Health Bureau.*

Philadelphia, May 24th, 1907.

Having established the need for such work and its practicability, it but remains to urge all school authorities to take steps to inaugurate the system, either directly by Boards of Education or through the local Boards of Health, or through conjoined action by the two Boards. The work can be extended as the necessities may require, and it is certain that satisfactory results will follow.

SPINAL ANALGESIA.*

BY DUNCAN ANDERSON, M.D., TORONTO.
Anesthetist: The Toronto General Hospital.

HISTORY.

THE idea of medicating the spinal cord was first suggested by J. Leonard Corning, of New York, in 1885. At this time he thought the anesthetic was distributed by the small veins. He made the injection between the spinous processes of the lower dorsal vertebrae and obtained sufficient anesthesia to pass a sound and urethral electrode without pain. His paper on this procedure appeared in the *New York Medical Journal*, October 31, 1885, page 483. Later in 1894 he deliberately and intentionally penetrated the membranes in the second or third lumbar space, and deposited the solution on the *Cauda Equina*. An account of this undertaking is given in his book on Pain, under the caption, "The Irrigation of the *Cauda Equina* with Medicinal Fluids," page 247 et sequor. This was published by Lippincott in 1894, five years before the publication of Bier's first paper on Spinal Anaesthesia. Bier has certainly amplified the procedure, but as far as the principles are concerned he has discovered nothing. His use of Quinine's aspiration of the cerebro-spinal fluid as a means of determining when the needle has penetrated the membranes is a convenience. He produced anesthesia first in a patient in August, 1898, and subsequently experimented on himself and assistants. Cocaine was used. The immediate and after effects were so severe that it was soon practically abandoned until the discovery of stovaine about four years ago. Since then several drugs have been used with varying degrees of success, such as novocaine, tropacocaine, alypin, scopolamine, and morphine. In this paper I am dealing only with stovaine according to Barker's method and formulæ.

The German and French investigators have used solutions of very different specific gravities. Chaput's, for example, has a specific gravity of 1.082, while Bier's solution has a specific gravity of 1.005. As the specific gravity of the cerebro-spinal fluid is 1.007 it will be noticed that Chaput's solution is much heavier while that of Bier is much lighter than the cerebro spinal fluid. They claim that the distribution of the analgesic fluid in the spinal sac takes place in one of two ways, or by a combination of both: (1) By diffusion; (2) by shifting the entire column of cerebro spinal fluid. As a rule they use a large syringe and

*Read before the Ontario Medical Association at Hamilton, May 28, 1928.

aspirate cerebro spinal fluid to mix with the solution, the whole being subsequently injected. Their results, however, have been wayward and uncertain; sometimes one part has become analgesic when they wished to operate upon another; in other cases the anesthesia would extend well upwards, even over the head and neck, while in others the legs alone would be involved.

Professor Barker, of University College, London, after investigating the matter carefully, decided that gravity was the principle governing the distribution of the fluid. He accordingly had a solution made consisting of stovaine, 5 centigrammes; glucose, 5 centigrammes, and water to make 1 c.c. The specific gravity of this solution is 1.023. The glucose is added to render it more viscid, and hence hold the analgesic fluid together longer in the sac. In using this fluid he pays the strictest attention to the position in which the patient is placed.

TECHNIQUE.

1. Preparation of the Instruments.—This demands the utmost care. They should be washed thoroughly with castile soap and hot water, then in sterilized water, and finally with alcohol or ether. They are then sterilized with distilled water, or steam, in their own special sterilizer, such as this, which is kept for this purpose only. There is no danger of the syringe breaking if they be put on in cold water. They should be boiled for fifteen or twenty minutes. Any trace of an alkali in the needle or water will render the stovaine inert. After using they are again carefully washed and sterilized, and put away in this case, care being taken that no trace of water remains inside the needles or they will rust; dry heat will prevent this; the stylets are left out of the needles, and the piston out of the syringe to prevent jamming.

2. Preparation of the Patient.—The area over the lumbar region is shaved and washed thoroughly with green soap and hot water, and a disinfectant compress applied. Before the injection is made the back is washed carefully with hot sterile water to remove any traces of germicides which might otherwise be carried in on the point of the needle. I usually direct that the back be prepared as for operation, and do the washing with plain sterilized water when they come to the operating room.

3. Position.—A. Sitting. B. Lateral. The injection is most easily made in the sitting position with the back well rounded; I almost invariably use the lateral with the knees drawn well up toward the chin, the head well raised by pillows, and the pelvis raised about two inches. This produces a marked curve in the dorsal region which is of the utmost importance where high

anesthesia is required. If the uppermost knee be raised by an assistant and the uppermost shoulder pushed from him, a still higher area is reached. After the injection is made, the puncture is covered with collodion or adhesive plaster. The patient gently lies down or turns quietly over on his back with the head and pelvis still raised. The ears should be plugged with cotton wool, and a sheet suspended over his chest to prevent his seeing the operator's movements and the instruments.

OBJECT TO BE ATTAINED.

The object is to reach the sac covering the spinal cord and inject a definite quantity of analgesic solution into the cerebro spinal fluid below the termination of the cord. The syringe with carrier attached is filled from the ampoule by suction and laid aside in a warm place. The sac can be reached most conveniently through either the second or third lumbar space. The fourth lumbar spine is on a line with the top of the iliac crests. If the finger be placed on this spine the third space must necessarily be just above it. The needle, such as I have here, is jabbed sharply through the skin exactly in the middle line. As the pain of going through the skin sometimes causes the patient to bend his dorsal region forward I usually wait until they are quiet again, otherwise the spinous processes might catch the needle and thus bend or even break it. It is then pushed inward and a little upward for about one inch when it will be felt to puncture the ligaments and enter a space. The stylet is then withdrawn and the needle pushed gently further in when you may feel it puncture the sac, and a clear fluid will run out in fast or slow drops. If the point of the needle be felt to impinge on bone it may be withdrawn a little and the direction changed. If it is impossible to get through the third space the second one may be tried. The object in going through the median line is to avoid vessels and filaments of the cauda equina. When the fluid in the sac is found, from 5 to 10 c.c. is allowed to escape, and the injection is made by means of the carrier which protrudes a short distance beyond the point of the needle. This is important, as it is possible to puncture the sac with just the point of the needle, and when the analgesic fluid is injected it may escape outside the sac, which would be manifestly improbable with the carrier.

PHENOMENA.

Nervous or excitable patients make bad subjects. While we may eliminate to a certain extent, sound and sight we cannot prevent the physic effects produced by the length of time occupied in operating. Immediately after the injection is made the patient may complain of tingling in the feet, and of a numb feel-

ing coming on. In from three to fifteen minutes this numbness will extend up to a variable height, depending upon the degree of the dorsal curve. The pulse is stimulated, it becomes fuller and slower, followed sometimes by nausea and even actual vomiting. The latter are usually transitory and have not been present in any of my cases where less than 5 c.g. of stovaine was used; headache has not been present in any case. If the injection be made in the sitting position analgesia of the perineum alone results. If the patient be kept in the lateral, the underneath side and leg alone will be effected, and the anesthesia will extend higher up on the lower side. If they are turned over on their back immediately after the injection, both legs are equally involved, and the anesthesia will extend up to the chest equally, but favoring the side which was underneath during the injection. It passes off in a reverse manner. In the majority of cases the motor power is entirely lost. In three of our cases, however, the patients could move their toes and feet, but felt no pain in them when pricked with a pin, although they could feel the touch.

RESULTS.

I have used it in the following cases, twenty five in all, with every satisfaction in twenty-four as far as the anesthesia was concerned, which has lasted from fifty minutes to two hours. In one case, the second, I failed to reach the sac, in a big muscular Assyrian. I believe now that this was due to lack of experience; no injection of course was made.

CASE 1.—Intestinal anastomosis in a moribund patient whom we thought was dead under ether on an open mask at a previous operation. Seven c.g. given in lateral position. In thirty seconds patient complained of tingling and numbness in the feet; inside of three minutes he was anesthetized up to the nipples. The operation lasted 57 minutes and the anesthesia about an hour longer. He was slightly nauseated but did not vomit. The pulse improved and the patient slept peacefully that evening. Operation being at four in the afternoon. He had had several general anesthetics previously, and asked me to use this one again should he require another. Unfortunately other fistule formed and he died six weeks later.

CASE 3.—Appendicectomy in a young man of 24 with a very bad heart. Six c.g. of stovaine was injected in the left lateral position; in four minutes anesthesia was complete up to the ribs; no pain felt. The operation lasted thirty-nine minutes. Slight nausea when the intestines were handled but no vomiting. The patient was perfectly comfortable after the wound was closed, and slept well that night.

CASE 5.—Ventral suspension in a nervous Irish woman, age

57. Six c.g. used, anesthesia complete in five minutes to the nipples; complained of the hard pillow under her head, and of the hard table, but did not know until two hours afterwards that she had been operated upon.

CASE 6.—Operation for hemorrhoids in a man, age 57. Five c.g. used in sitting position, anesthesia of the perineum alone; sphincter relaxed of its own accord. Felt no pain but a little discomfort.

CASE 7.—Prostatectomy in an old man, age 77; had been bed-ridden for four months. Perineal route. Five c.g. of stovaine used in lateral position; in seven minutes anesthesia was complete to the umbilicus. Pulse improved by the injection; no pain or untoward symptom; operation finished in twenty minutes. Saw him an hour later in his ward when he said he was feeling quite comfortable. The anesthesia was then down to pubic region; pulse was full and regular. When the anesthetic effect had passed off the pulse became fast and weak, and complained of pain in the wound. He died at six o'clock, about six hours after the completion of the operation. I think death was due to shock, the symptoms of which manifested themselves as soon as the anesthesia had passed off.

CASE 8.—Radical cure in a very nervous German Jew, age 24. Seven c.g. used in lateral position, Anesthesia in three minutes to the ribs. This patient was nauseated and vomited; pulse became very slow and weak. He became pale and complained of feeling very sick. This passed off after awhile, and he has got on splendidly without any untoward symptoms. I have questioned him repeatedly to find out if the nausea were produced by fear, and I believe it was.

CASE 10.—Was the first patient upon whom we gave the clinic at the Toronto General Hospital, March 28th, the double inguinal hernia patient, age 57, previously alcoholic. Had a stroke four years ago. Four c.g. of stovaine injected; after fifteen minutes there was numbness, but no anesthesia. Three c.g. more were injected when we got complete anesthesia up to the nipples, which lasted long enough to allow the sides to be done in succession. Anesthesia appears to be longer in coming in old people with rigid spinal columns.

CASE 11.—In this four c.g. of stovaine was used; the patient, young woman, age 26; remained in lateral position throughout. Her left leg and side alone were anesthetized. The operation was for the removal of the head of the metatarsal bone of the left foot. She could move her right leg at the end of the operation and sensation was intact in it. When she was turned over on her back to be taken to the ward the anesthesia extended to the right leg. She complained of headache afterward, but upon investiga-

tion I was satisfied it was due to the sand-bags, as she was in the habit of sleeping without pillows. There was no sign of rigidity of the neck muscles.

CASE 18.—An old man of 77. Gangrene of the left foot. had a stroke five years ago. In a miserable condition generally. Arteries relatively soft. Four c.g. of stovaine used. The anesthesia lasted one and a quarter hours. Leg amputated at the knee joint. Pulse improved, and he was quite comfortable throughout the operation, which he did not know was being performed. When the dressings were on we asked him if he would not decide to have the leg off, and he replied that while he had enjoyed our kindness in examining him so carefully he was afraid that it would cause too much pain. His temperature was normal afterward, and he is making a good recovery.

In conclusion, I may say that I have given details only of those cases which illustrate the salient points of the method. I have given the facts as I have been able to observe them without any feelings in the matter. The one point that strikes me most in contrasting this method with general anesthesia is the absolute prevention of any degree of shock while the operation is in progress, and while the anesthesia lasts. These cases, with the exception of one or two, were those in which for one reason or another, I did not care to use a general anesthetic, and in fact in which I believe a general anesthetic would have proved fatal.

During the last few weeks I have examined these patients repeatedly, have read over their charts and questioned the nurses and house surgeons, and so far have been unable to detect any dangerous symptoms due to the anesthetic. In the nervous Jew, case 8, there was a rise of temperature to 100 F. for two days after the operation, and a temporary trace of albumin; no casts were found.

In the nervous Irish woman, No. 5, in whom the ventral suspension was done a trace of albumin appeared temporarily. I do not know whether these traces of albumin were due to the anesthetic or not; I merely report them for what they may be worth. Case 15, a man, age 64, uses tobacco and liquor freely. Was one of the cases in which motor power remained. I had previously had trouble in giving him a general anesthetic. Four c.g. of stovaine used. Perfect anesthesia for forty-seven minutes. Three days after the operation he complained of his left foot dragging. I could find no sign of paralysis; but in walking it certainly hit the floor more forcibly than the right. It disappeared in a few days, and he is back at work again. In this connection it is interesting to know that paralysis of the sixth nerve occurred in a patient in Dr. Chambers' service at the Toronto

General Hospital from whom some cerebro spinal fluid had been aspirated; nothing had been injected.

At present I think this method of anesthesia should only be used in selected cases, and by those who are willing to exercise every care in its evolution. The possibilities of disaster are unquestionably great. Nevertheless, in careful hands I believe it will prove a valuable assistant to surgical procedures.

DISCUSSION.

Dr. Bingham, Toronto.—Was not an anesthetist and did not propose to become one. He had not used this method himself but had operated upon several patients to whom it had been administered by Dr. Anderson. The anesthesia produced was perfectly satisfactory in every way. No particular pain was caused by the introduction of the needle and the difficulty of finding the sac lessened with experience. He believed that, in selected cases, there was no question about the value of the method.

Dr. W. F. Langrill, Hamilton.—During the past two years twenty cases of spinal anesthesia at Hamilton City Hospital, Tropicocaine and stovaine, both used. No bad results with either, and in every case anesthesia required obtained. Method was used for most part on very old men to whom it was not safe to give a general anesthetic.

Dr. Marlowe.—I have seen spinal analgesia administered a number of times, but have not used it, being satisfied to wait for the light of further experience to be gained by those already making use of it. In sixteen cases in which spinal analgesia was used, or attempted, in Dr. Bruce's service, three were unsuccessful. In one he could not get the needle into the spinal canal. In another there was so much hemorrhage on making the puncture that the injection was not made. In the other sufficient anesthesia was not induced, necessitating general anesthesia and occasioning a waste of time of over half an hour. Disadvantages: 1. Sometimes difficulty of entering canal. 2. Possibility of hemorrhage. 3. Uncertainty and sometimes loss of valuable time. 4. Possible psychological shock in addition to ordinary traumatic shock which may be delayed. 5. Undesirable after results, as prolonged headache, possible neuritis or even late paraplegia. Contraindications to general anesthetics are lessened with experience of anesthetists, and these anesthetics are for the most part taken as they are given.

Dr. McLean, Guelph.—Had witnessed several of the cases operated on at the Toronto General Hospital, had failed to observe the "terror" on patients as described by Dr. Perfect, or the agony of puncture or "waiting for anesthesia." He reported having employed this method of anesthesia in a young woman

suffering from an acute attack of appendicitis, in whose case general anesthesia was contraindicated. In this case some difficulty was experienced in reaching the canal, but when reached the anesthesia was complete to costal margins within three minutes. There was momentary nausea which did not recur. The muscular relaxation was absolute. The operation was completed within twenty minutes. There was no headache nor other untoward symptom, and the recovery was rapid and uneventful. He considered that in suitable cases the Barker Stovaine method will offer marvelous help to surgery.

In the closing discussion Dr. Anderson stated that he was endorsing Professor Barker's method and formulae only, and in every case where the injection was made a satisfactory anesthesia resulted. Dr. Perfect's unfortunate experience certainly did not occur in his cases. He had given many anesthetics and in at least twelve of these Spinals he would have been afraid to attempt a general. In a recent letter Professor Barker states that his last one hundred cases have all been successful. Paralysis might develop. Bier and his assistants were injected with cocaine ten years ago and they are well to-day. Corning has never known of paralysis to occur. Chaput has noticed a temporary paralysis in some cases which he thinks was due to suggestion. They all got well. Headache may occur but is relieved by withdrawal of cerebro-spinal fluid, by caffeine or interstitial salines. He wished to thank Drs. Bingham and Primrose for the most of these cases.

PRESIDENT'S ADDRESS, ONTARIO MEDICAL ASSOCIATION.

BY INGERSOLL OLMSTED, M.D., HAMILTON.

Gentlemen,—Permit me first to thank you for placing me in the honorable position of President of the Ontario Medical Association. In electing a member of the profession of this city to fill this most important office, I feel that you wished to do honor to Hamilton and to the profession here, rather than to the individual. On two previous occasions Hamilton has been honored by the election of one of its citizens to the Presidency of this Association. In 1883 the late Dr. J. D. Macdonald was chosen, and again in 1888 the late Dr. J. W. Rosebrugh received the honor. The first and only meeting of this Association in this city was held in the old City Hall on James Street North, where the present City Hall stands, in the year 1884, just twenty-four years ago.

After an absence of twenty-four years, it is my pleasant duty to extend to you a hearty welcome. We feel that the prodigal has returned, and an intellectual feast has been prepared for you. We trust that the reception given you this year will induce you to return to us in the near future.

Hamilton has well deserved the name of the Ambitious City. It may not be generally known, but nevertheless a fact, that this was the first city in America where antiseptic surgery was practised. Dr. A. E. Malloch, a Canadian, who is with us this afternoon, was a house surgeon of Lord Lister. He returned to Canada and introduced Listerism in Hamilton in 1838.

In his early operations the spray was used, but realizing that it was unnecessary, he abandoned its use years before it was discarded in England. The results he obtained, and the work he did were as fine as anything I have ever seen.

Also this is the first city in the province where compulsory notification of tuberculous patients to the Medical Health Officer was established. It was owing to the energies of Dr. W. F. Langrill, the present Medical Superintendent of the City Hospital, that this important by-law was passed in 1902. At that time Dr. Langrill was the Medical Health Officer, and he was ably supported by the Hon. Lieut.-Col. John S. Hendrie, who was Mayor of the city.

There have been many improvements in this city during the past twenty-four years. Whereas formerly there was only one hospital, with accommodation for 100 patients, we now have two

first-class hospitals, the city, with 250 beds, and St. Joseph's with 50 beds. Both of these institutions are splendidly equipped with modern appliances, and over 3,000 patients are treated annually in the wards, and about the same number are treated as out-patients. The surgical work has increased by leaps and bounds, and the results have been excellent.

Two years' ago a Sanatorium was established on the mountain, for the treatment of incipient cases of tuberculosis. It has accommodation for 35 patients. The results obtained there have been very encouraging.

Another very important institution is being erected, thanks to the generosity of one of our citizens, Mr. William Southam, namely, a hospital for advanced cases of tuberculosis. We will henceforth be in a position, we hope, to successfully cope with the ravages of this terrible disease. It is thus a great pleasure for us all to have the members of the Association meet here.

Now, in regard to the Association itself. We felt that owing to the tendency of its members to devote themselves to special branches, new sections should be formed. The various subjects could not be fully discussed in the two sections, Medical and Surgical, consequently three additional sections have been formed, namely, Preventive Medicine, Eye, Ear, Nose and Throat; Obstetrics and Diseases of Children. Two additional sections could easily be added, namely, Mental Diseases and Diseases of the Nervous System and Pathology. I firmly believe that if this plan were followed, and the different sections were placed in the hands of enthusiastic men, our annual meetings would be very much better attended.

With 2,500 practitioners in this province, we should have more than 10 per cent. of them at our meetings. Some parts of our Ontario are seldom represented on our programmes. This should not be allowed. During the year hundreds of interesting cases are seen by the different physicians, which are never published. The rule to take careful notes of cases should be more generally adopted. It would then be a very easy matter to get up a short paper which would lead to good discussion with marked benefit to all present.

During the past two years several county medical societies have been formed, and if the officers of these societies were to interest themselves in getting their members to write papers and present them to the Ontario Medical Association, the duties of the officers of this society would be lightened very much.

We want every physician, whether practising in village, town or city, to come to our meetings, and give us the benefit of his experience.

Many of the papers on the programme this year are by Canadians practising in different parts of the United States. Thus, there are two from New York, two from Johns-Hopkins Hospital, Baltimore, and two from Detroit. Montreal has sent some of her best physicians and surgeons to assist us at this meeting, and last, but not least, our brethren across the line, who unfortunately are not Canadians, have graciously laid aside their work and come to us with the best fruits of their labors.

For the preparation of this programme, gentlemen, we are chiefly indebted to the untiring energy and faithful work of the chairman of the Committee on Papers, my friend, Dr. Wallace.

As there are a large number of excellent papers to be read this afternoon I shall not take up any more of your time, but will proceed with the programme.

AN IMPROVED STOMACH TUBE.

BY RICHARD F. CHASE, M.D., BOSTON, MASS.

Instructor in Clinical Medicine, and Lecturer on Gastro-intestinal Diseases, Tufts College Medical School; Physician to the Boston Dispensary, Member of the American Medical Association.

THE degree of favor which this tube has met in the United States during the past two years suggests that it might be favorably received by physicians of other countries, if it were known to them. The tube consists of (1) an Ewald stomach tube, to which is attached (2) a saliva shield, (3) a glass connector, (4) a 30-inch plain tube, on one end of which is connected (5) a *valveless* rubber bulb.

The Ewald stomach tube is 30 inches long, marked at 23 inches with a white band to show the average distance of introduction in normal cases. It has an end and extra large side eye, opposite which are five small eyelets. The sharp edges of eyes (common to most tubes) are avoided, each tube, in this respect, being finished by hand. Fleiner's criticism of English tubes is equally applicable to those of American make:

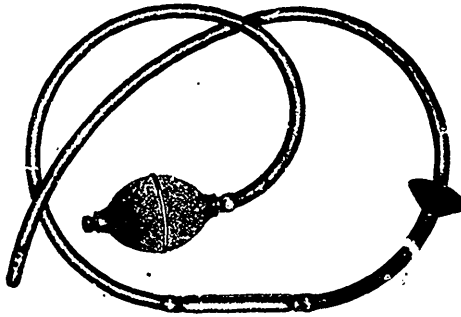
Fleiner (in *Diseases of the Digestive System, of Modern Clinical Medicine*, 1906, pages 49 and 50) says: "these English tubes have glaring defects which for some unaccountable reason the manufacturers do not remedy. Their openings are frequently not large enough, and the margins of the openings, without exception, are so sharp that they readily injure the mucous membrane, particularly the mucous membrane of the stomach. It is to be hoped that the manufacturers will speedily place on the market more serviceable tubes, with rounded polished edges, that will meet practical requirements."

The saliva shield is adjustable and detachable; it directs the flow of saliva from the patient's mouth into a basin held by patient, thereby preventing it from mixing with the gastric contents or flowing on to office floor. The valveless bulb on *end* of tube is the chief feature of the apparatus. It is strong enough; it fits the average hand; its capacity is 3 ounces or 90 cc, so that the amount of fluid used is readily determined.

With this tube (a) aspiration or "expression" of stomach contents, (b) inflation of the stomach, and (c) lavage or douching of the stomach may be done without disconnecting any of its parts and without the aid of a stop-cock or shut-off. So much can hardly be said of any other apparatus, because, like the Boas Aspirator, the Leube Lavage Apparatus, etc., they are intended for one purpose only.

The tube is used much as a bulb syringe, except that suction or injection may be induced at the will of the operator *without* reversing the bulb. The thumb of right hand most conveniently supplies the place of an otherwise necessary valve. To wash out or douché the stomach, water is injected with the bulb (3 ounces at a time) with the amount of force desired, then allowed to siphon out in the usual way. If the return flow is delayed, it may be hastened by inducing suction with the bulb. If the eyes of tube become plugged with food particles, the injection of one bulb of air or fluid clears the eyes.

To distend stomach, air is injected in the same manner as water, the tube is simply pinched to retain it. By allowing patient to pinch the tube, the operator's hands are free to percuss or palpate stomach. The air may be allowed to escape at any moment, simply by releasing tube.



To obtain the stomach contents, siphonage is started by applying suction with the bulb.

After a test meal, or in poison cases, the contents may be more thoroughly and more expeditiously removed than with various other devices.

By substituting a Rosenheim tube for the Ewald tube, one has an ideal douching apparatus. By this means, 33 small forceful streams are thrown upon the walls of the stomach.

By substituting a colon tube for the Ewald tube, one has an apparatus for inflating the colon and administering rectal injections and high enemata.

Riegel (in his Diseases of the Stomach, 1903, page 260), says: "Mild and slight degrees of motor insufficiency are particularly amenable to treatment by douching. According to Rosenheim the procedure can also be employed with advantage in mild degrees of Chronic Catarrh of the Stomach with or without reduction in the motor powers, and, finally, in severe states of irritation affecting the sensory and secretory apparatus."

In self lavage, the patient sitting, holds tube at mouth with left hand, while, with the right hand, he injects the fluid into stomach from a basin, placed upon a chair or table. The fluid is allowed to siphon out in the usual way.

The tube or apparatus meets every requirement of the specialist. It is simple in construction, more easy to operate, and far more efficient than the tube with bulb in the middle, so much used by the general physician in the United States.

One who is familiar with the technic of lavage, inflation, etc., requires no directions for the use of this tube, but they are given inside of box cover containing tube for those who need them.

The tube is carried in stock by all of the larger dealers in surgical instruments in the United States, and would probably be procured by any local Canadian dealers on request.

Medicine.

IN CHARGE OF
J. J. CASSIDY, M.D., W. J. WILSON, M.D.,
AND J. H. ELLIOTT, M.D.

MILK AND INFANT FEEDING.

THE Hygienic Laboratory of the Public Health and Marine Hospital Service of the United States have issued a bulletin (No. 41), of 750 pages, on "Milk and its Relation to the Public Health." This must be considered the most authoritative work to-day on the conveyance of disease through milk, on the chemistry and bacteriology of milk and ice cream, their contaminations, the question of sanitary inspection and pasteurization, while the subject of infant feeding presents much which does not appear in our text-books. The various and often complicated methods of modifying cow's milk for infant feeding have meant so much in time and trouble that we read with much relief the statement, "Undiluted cow's milk can be given from the beginning of the first month on, provided its content of fat does not exceed 3 to 3.5 per cent., nor the daily quantity greater than 150 c.c. per kilogram of body weight." Maternal nursing is fully considered, but the article on artificial feeding is most interesting, leading up gradually to the above statement. The great objection to cow's milk has been the belief that the proteids are very difficult of digestion, and to overcome this supposed difficulty, the various modifications have been suggested, the addition of alkalies and diluents, split-proteids, and other methods to lessen the percentage of proteids. The work of Heubner, Keller and Czerny, which has been confirmed, shows that cow's milk proteid is almost as easily digestible *per se* by infants as are the proteids of woman's milk. On the other hand, these workers have shown that the element in cow's milk which causes digestive disturbance is the fat and not the proteid, for they state that the apparent curds found in the stools following gastro-intestinal disturbances in bottle-fed infants, and which have been taken for curds without further investigation, are for the most part saponified fat, neutral fat, and fatty acids, interspersed in severe cases with clumps of bacteria.

If infants are fed on fat free milk, although the milk be undiluted and containing 3.50 per cent. of bovine proteid-(woman's, 1.50), no trace of casein appears microscopically in the stools. It has been found that an energy quotient of 70 is the minimum on which a child of less than one year of age could maintain its weight, while a quotient of 100 calories per kilo of body weight

marks the upper limit which can only be temporarily surpassed without inducing disastrous nutritive and gastro-intestinal disturbances. One gram of fat produces 9.3 calories, and one gram of proteid and one gram of carbohydrate have each a caloric value of 4.1. Thus it is impossible by inadvertence with carbohydrate or proteid alone to get an energy quotient of a dangerous height without producing a food which either, from its state of concentration, or by reason of its bulk, would be manifestly impossible to feed to any infant. On the other hand, slight increases of 1 or 2 per cent. in the fat content of a food containing normally 3.00 to 4.00 per cent. may have the effect of raising its caloric value to a dangerous extent.

An excess of fatty food is not absorbed but remains in the intestine and is there saponified. In this way an excessive abstraction of the alkaline bases of the body takes place, causing nutritional disturbances. It would seem that a milk which contains 4 per cent. butter fat were too rich and that a fat content of 3 to 3.5 per cent. would be better for infant feeding. Dairymen tell us that calves do best on this. Rich milk, i.e., rich in fat, for with increase of fat there is no corresponding increase in salts present, is a result of careful breeding and not a condition original to the milk of the cow.

A second effect of excessive fat lies in its behavior, that, when casein is curded in the stomach by rennet, a large per cent. of the butter fat present is carried down with the casein. This action of fat in making curds large and indigestible by reason of their excessive fat content, has long been known to dairymen, as they are well aware of the fact that Jersey cows often can not nurse their calves by reason of the excessive richness of their milk. In the case of the human infant, if the milk be too rich it is vomited. If is just rich enough to produce a curd with a fat content larger than it should have, peristalsis is checked and the stomach discharges its contents slowly to permit the gastric juices to act. The next meal finds the stomach with a residue from the one previous, this vicious cycle keeping up, fermentative changes take place, with resultant troubles.

There is a full consideration of the percentage system of feeding and a discussion of some well known tables, but this system is found to be based upon conclusions that are incomplete. The whole question of artificial feeding of infants may be reduced from a condition of extreme complexity to a relatively simple and scientific basis.

To settle any doubt as to the digestibility of whole cow's milk in the stomach of infants, reference is made to the observations of a number of continental clinicians, who have fed infants from the earliest days of life on whole cow's milk, in proportion to their needs, without observing anything but the happiest results.

In feeding cow's milk undiluted, our practice must be controlled by this circumstance; abroad, owing to different methods of feeding and different grades of cattle, milk containing over 3.75 per cent. of butter fat is rarely found, and the average is probably not over 3 to 3.50 per cent. in most cases. Here, a milk is poor in butter fat which does not average 4 per cent., while selected milk and certified grades are often nearer 4.50 or 4.75 per cent.

Consequently, though undiluted cow's milk may be used satisfactorily in France and Germany, it cannot be advised in this country unless its fat content is known to be below 3.50 per cent. This condition can be secured either by using milk from Holstein cattle, which is normally no richer than this, or by removing appropriate amounts of top milk from bottled milk after the cream has risen and thoroughly mixing the remainder.

GENERAL DIRECTIONS FOR THE ARTIFICIAL FEEDING OF INFANTS.

For children one month old or over.—First, weigh the child; allow a daily quantity of cow's milk of one-seventh body weight for infants up to three months of age, one-eighth the body weight from 3 to 6 months, and after that from one-ninth to one-tenth.

Quality of milk to be used.—Use nothing but clean, fresh bottled milk, "certified," if possible, or from a high-grade dairy, making sure that fat content is not over 3.50 per cent. If it is greater than this it must be reduced by dipping the cream from top of bottle as per this table.

Table showing quantities of top milk that must be removed from top of quart bottles of milk in order to reduce the percentage of fat to 3.50 per cent:

Original percentage of fat in the milk.	Quantity of cream to be removed from top of quart after cream has risen, to reduce fat to 3.50 per. cent.
4.00	30 cc = 1 ounce
4.50	60 cc = 2 ounces
5.00	80 cc = 2½ ounces

Mix the milk thoroughly by pouring into another vessel and measure out the amount of the daily supply requisite, as indicated by the age and weight of the child; *e.g.*, for child one month old, weight, 9 lbs., 1/7 body weight=19 oz., daily quantity of milk=19 ounces. Divide the quantity so obtained equally into nursing bottles, corresponding in number to the number of daily feedings. Sterilization of all milk is advocated for infants under three months, after that pasteurization until the eighth or ninth month, when raw milk may be used, provided weather be cool and milk reliable.

There have been two objections to the use of sterilized milk. First, on account of supposedly greater difficulty in digestion, and

second, because of danger of producing infantile scurvy. Careful investigations of the digestive absorption of the constituents of heated milk have shown evidence of a considerably greater degree of completeness in such absorption than is the case in unheated milk. And, too, the French clinicians bring forth almost conclusive evidence of the superiority of both sterilized and pasteurized milk over raw cow's milk in this respect.

The second objection, that of causing infantile scurvy, appears to reside in qualities inherent in the milk used, and is not attributable to the sterilization. This scurvy also occurs in breast-fed infants. Should a prophylactic be desired, all danger may be averted by the administration two to three times a day of one-half to one ounce of orange juice one hour before feeding.

For infants under one month of age.—In the early period of lactation woman's milk shows more proteid and less sugar and fat than at subsequent times. We can, therefore, more easily imitate the provisions of nature by feeding skimmed milk to infants during the first month of life. Walls has found that sterilized undiluted skimmed milk is entirely digestible even by premature infants. Skimmed milk is obtained either as centrifugally skimmed milk from the dairy, or by siphoning off the under half of a quart bottle whose cream has risen. After the end of the first week, one-third whole milk and two-thirds skimmed milk can be given; after the end of the second, one-half whole milk and one-half skimmed milk; at end of the third week, three-quarters whole milk and one-quarter skimmed milk, passing to whole milk at end of fourth.

Feeding of older infants.—The seventh month marks the time when it is desirable to supplement exclusive milk feeding by some other food. This should take the form of some cereal broth, such as oatmeal jelly, barley water, or dextrinized gruel, and should be added to the milk in proportion of one-third broth to two-thirds milk.

While, as a rule, it may be postulated that no infant is born with a digestion congenitally weak, still, as the result of inadequate feeding, either maternal or artificial, we do encounter infants whose digestive processes are a law unto themselves. Such cases must be attacked along individual lines. Fat-free buttermilk, or equal parts of buttermilk and malted cereal broths, are in many instances digestible with apparent satisfaction by such infants. Skimmed milk, closely resembling buttermilk in composition, is also recommended. When tolerance for cows milk in this form is established, it must be supplanted by a gradual return to whole cow's milk, as both buttermilk and skimmed milk are too poor in nutritive elements to furnish the basis for any long-continued scheme of artificial feeding.

Atrophic infants, of course, require a greater energy quotient

than the normal child of the same weight. In such cases the food given may be increased above the normal, both in quantity and caloric value, taking care that in providing such excess the digestion be not embarrassed.

It is important in artificial feeding to remember that cow's milk, when compared with human milk, is essentially an alien food, its fats and proteids are different in composition from those of human milk, and must of necessity be regarded as substances foreign to the human infantile digestive tract. As a consequence, greater energy is required for its digestion and assimilation, hence we should spare the infant metabolism any further strain which might be due to the conversion of a milk impaired by fermentative changes due to its improper preparation and preservation as a food.

While we can never hope to vie with maternal nursing, a careful study and application of the principles expounded in this bulletin should go far toward eliminating the excessive complexity and uncertainty which have hitherto characterized the whole subject of infant feeding and, in the main, be productive of better results than we can obtain by other methods.

ACCIDENTS IN THORACENTESIS.

DR. W. F. HAMILTON, in the *Montreal Medical Journal*, November 1907, relates four cases of accidents in thoracentesis.

1: the first, after the withdrawal of fifty ounces of fluid, cyanosis and troublesome cough set in, with expectoration of albuminous fluid. Under stimulation he recovered.

In the other three, exploratory puncture was made for diagnosis, serous or purulent effusion being suspected. In one pneumothorax developed from puncture of lung. Good recovery. In another exploratory puncture was made in eighth interspace in the posterior axillary line. Alarming dyspnea and collapse followed, with spitting of blood, face ashen, involuntary urine and feces, pulse 147 and weak. The right lung, hitherto clear, filled with moist rales. Using stimulants (heat, brandy, etc.), patient recovered, and right lung cleared in four hours. In the last, puncture was made in anterior axillary line, between fourth and fifth ribs, the needle pointing upwards. On withdrawal, the head was drawn back, and all the body became rigid, splinctus of bladder relaxed, face cyanosed, skin elsewhere mottled, pulse absent, respiration suspended. Artificial respiration was adopted and strychnia given; rigidity persisted twenty minutes, when some clonic spasms appeared, skin gradually became dusky and pallid; consciousness returned in one hour. There was some vomiting later.

In about twelve hours a series of convulsive seizures set in, and recurred for four hours at frequent intervals. Total blindness was present. Gradual recovery ensued:

This paper is a valuable contribution to the literature on Thoracentesis.

J. H. E.

PURULENT PLEURISIES IN CHILDREN.

In *La Clinique*, December 27, 1907, E. Lesne deals with this subject. Purulent pleurisies are four or five times more frequent in the child than in the adult, more frequent in early than late childhood, and are almost the only pleurisies seen in the new-born. Many are not diagnosed, being recognized only at autopsy. This frequency is explained by the fact that infants have more often a pneumococcus than a tuberculous infection.

About 65 per cent. of empyemata are due to pneumococcus, and are secondary to pneumonia or broncho-pneumonia. The streptococcus follows next, though in the new-born its percentage is greater than the pneumococcus. Other varieties of empyemata are exceptional in the infant, those due to the tubercle bacillus, putrid pleurisies due to anaerobes, secondary to pulmonary gangrene, those from colon bacillus, staphylococcus, etc.

The pneumococcus pleurisies have a variable *onset*. At times they appear in a child whose pneumonia or broncho-pneumonia does not clear up, and temperature does not fall; these are called para-pneumonic. Again, and more often, eight or ten days after a pneumonia or broncho-pneumonia the child presents, more or less rapidly, emaciation and febrile symptoms—meta-pneumonic. Or, the pulmonary condition may pass unrecognized and the purulent pleurisy seem primary.

The general signs attract attention—a very irregular temperature at times, a true hectic, again almost no fever, often abundant sweats, almost always a pale, ashy facies with emaciation, the fingers frequently hippocratic, and one is not disinclined to consider the condition tuberculous.

The physical signs do not always allow one to make a diagnosis, and they vary according to whether the pleurisy is in the general pleural cavity or encysted between the pulmonary lobes themselves or between lung and diaphragm.

The *course* is variable; after a time difficult to determine, but always long (one to three months on an average), it may terminate in several ways. Sometimes cure follows by resorption. An interlobar pleurisy may rupture into the air passages. This occurs toward the third or fourth week, and revealing a condition

not recognized. A return to health may then ensue, or cachexia followed by death. During its course there may be localized visceral or articular pneumococcic infections. Exceptionally and never in the interlobar forms, there may be an empyema necessitatis, which an early diagnosis will allow us to avoid. Other terminations are rare.

The *streptococcus pleurisy*s are the most common in the first year and are secondary then to puerperal infection, or to streptococcus broncho-pneumonia; rarely also appearing in the course of or during convalescence from scarlet fever. At times their onset is insidious, again severe with chills and fever. They are rarely interlobular. The general condition of the patient is more altered than in a pneumococcus infection, the face more earthy, the typhoid aspect more marked, the type of fever showing more marked fluctuations. Its course is acute or sub-acute, and death most often occurs with septicemic phenomena, or with hectic; cavitation and empyema necessitatis do not occur.

Purulent pleurisy due to tubercle bacillus are very rare and present nothing special in the infant. Their onset is insidious, symptoms not severe and no high fever. There is usually a large effusion, recurring rapidly after respiration, and may end, if untreated, in empyema necessitatis or pyopneumothorax. Death occurs through hectic or general tuberculosis.

Diagnosis should be made as far as possible by the clinical picture and physical signs. Where these fail two useful procedures may be utilized: 1. Radioscopy and radiography. 2. Exploratory puncture. The latter when positive leaves no doubt, but if negative does not allow one to eliminate purulent pleurisy. One may pass by the wall of an encysted pleurisy, or the needle may be too small, or too short.

Prognosis may be considered from two points of view: Immediate and ultimate. From the immediate point of view the pneumococcus empyemata are generally benign (mortality about 10 per cent.). Vauvert's statistics show the same results in operated cases and in those not operated upon. There is no doubt that intervention is left too late in many cases. Streptococcus infections show a mortality of 75 per cent. Ultimate prognosis is dependent much upon degree of pulmonary sclerosis and thoracic retraction which have so much to do with the mechanics of respiration.

The *therapeutics* must also be considered from two points: Immediate treatment, and subsequent treatment. One must be guided by the nature of the pleurisy. If it is a pneumococcus pleurisy, aspirate. This or a second aspiration may be all that is necessary, but if the temperature remains elevated, and the effusion re-forms, thoracotomy should be performed with or without

costal resection, draining without flushing. In streptococcus pleurisy, one should immediately resort to thoracotomy with flushing. Those due to the bacillus of Koch should be interfered with as little as possible, being content with repeated aspiration, should this be needed. Putrid pleurisy should be treated by large, free opening and abundant flushing.

A purulent pleurisy, whatever its nature and however treated, is almost always fatal during the first year.

Once the pleural cavity is evacuated and the general condition ameliorated, one should recommend aërotherapy and suralimantation, with reconstructive tonics, and later order suitable gymnastic exercises to overcome possible thoracic contraction.

Operation offers the greatest hope of recovery. When a positive diagnosis has been made and there is a persisting thyroid intoxication, medical treatment unless markedly beneficial should not be continued long before operation is resorted to. The only contraindications in an uncomplicated case are a feeble heart with a very high pulse frequency, or pronounced psychic excitation.

THE TUBERCLE VIRUS IN COLD ABSCESSSES.

Two interesting articles have recently appeared in Brauer's *Beitrag zur Klinik der Tuberculose* on methods of demonstration of the tubercle virus in the contents of cold abscesses.

The work was done in Von Behring's laboratory at Marburg, but has not yet been confirmed by other workers. Injection of the abscess material into a guinea-pig caused death from tuberculosis in about six weeks. The same pus heated to 80 deg. Centigrade for one hour did not cause death. As is usual in the case of smears made from cold abscess material, the ordinary methods of staining revealed no bacilli, but by means of special staining methods, which are described in the papers, small granules were demonstrated, some singly, some arranged in rod-like forms. Control smears were made from pus which formed by putting a sterilized sliver of wood underneath the skin of guinea-pigs and mice. These smears do not show the granules.

This work was done as the result of the examination of tubercles in the lung of a guinea-pig which had been injected with tubercle bacilli of known virulence, which tubercles, on section, showed no bacilli. By special staining methods, both in the tubercle and in the lung tissue near the tubercle, these small granules were to be found, some as single or paired granules, others in rod-like forms. No definite tubercle bacilli could be demonstrated. Bacilli were recovered from the second guinea-pig injected with lung tissue

containing these tubercles. Culture experiments are also described, showing the development of tubercle bacilli from the tissue containing these granules, and by the special staining methods described the granules were demonstrated on the culture medium (blood serum) for two or three days previous to the development of the tubercle bacillus in its ordinary form.

If this work is confirmed it will be of great assistance in the bacteriological diagnosis of tuberculous abscesses, for at present we have to depend upon guinea-pig inoculation, a matter of weeks.

J. H. E.

THE DIAGNOSIS OF EXOPHTHALMIC GOITRE.

LEWELLYS F. BARKER, in *Jour. Amer. Med. Assoc.*, Oct. 12, 1907, discusses this at length. Beside the three cardinal symptoms, of struma, tachycardia, exophthalmos, there are many other symptoms, some more important in diagnosis than the exophthalmos, because more frequent. In three of twenty-one cases no enlargement of the gland was discoverable. In about one-third of all cases there is no exophthalmos, and in the remaining two-thirds may be slight. Increased frequency of pulse is the most constant sign. It is usually over 90, and may exceed 200 beats per minute. There may be subjective palpitation, also throbbing of the carotids and abdominal aorta.

The enlargement of the gland is usually uniform, but as a rule not great. The lobular hyperplasia causes a characteristic granulation of the surface generally palpable. The vascular changes in the gland may cause (1) visible pulsation, (2) palpable, systolic expansion, (3) palpable thrill, (4) bruits audible at the entrance of the thyroid arteries into the gland.

There is a fourth cardinal symptom usually developing later, tremor. Psychic manifestations may be of diagnostic import, often occurring early. Emaciation is apt to ensue even when liberal diet is taken.

J. H. E.

Selected Articles.

NURSES FOR PEOPLE OF MODERATE MEANS.*

BY J. N. E. BROWN, M.B.

Superintendent Toronto General Hospital.

In addition to the usual words of congratulation I should like to say something to the graduates of to-night concerning a certain phase of the nursing work in Toronto, leaving the questions involved therein as problems for your consideration, and, it may be, your solution.

It has been much brought before me of late that while two classes of our citizens are fairly well provided for in respect of nurses, namely, the wealthy and the poor—the former by the graduate nurse, the latter by the Victorian Order and nursing missions, there remains a very large class, the people of moderate means, who are by no means so well provided for. Please understand that I do not in this class include the unskilled labor classes, who do not (I fancy) and need not hesitate to avail themselves of the district nurses; but I refer to those who do clerical work, small mercantile and skilled labor classes, and those whose incomes range, say, from \$800 to \$2,000 per year. These are willing to pay, and certainly do not require charitable nursing aid, but, as one city physician states, “A very large class are able to employ a graduate nurse at \$18 to \$21 a week for a couple of weeks in an emergency, but find it altogether too great a drain on their resources to retain such an one through a protracted illness.”

To secure the physicians' points of view in the matter, I submitted a list of three questions to a number of them. Forty-four replies were received from representative practitioners from all parts of Toronto.

The first question was, “Do you know of many people (who cannot be considered objects of charity) who, from financial or other reasons, are unable to secure the services of trained nurses? Please let me know what proportion of such families there are in your community.” The replies to this varied according to the part of the city in which the writer practiced. Two Bloor Street physicians stated that they had not more than 5 per cent. to 10

*An address to the graduating class of the Training School of the Toronto Hospital for Incurables, March 19, 1908.

per cent. of such in their clientele. College and Carlton Street doctors give from 30 to 50 per cent. as about the proportion; while doctors practicing south of this line state that from 80 per cent. to 90 per cent. of their families are unable to afford a graduate nurse. Remember that the question excludes all purely charitable cases, and refers to those who constitute the main body of our citizens. In the light of such figures the answer to my first question is very apparent.

Question No. 2 was: To what extent is the need of such a class of people supplied by district or other nurses, and at about what expense? The replies indicate that the need is supplied to a certain extent by, first, the district nurses and Victorian Order, at prices commensurate with the purse of the families visited; second, by the working nurse, who is also called the untrained nurse and sometimes the "experienced" nurse, and who charges from \$7.00 to \$10.00; occasionally as high as \$14.00 per week.

These, they say, are usually women of middle life, of more or less ability, who often do exceedingly good work, who also are willing to help in the house. According to the replies received, these are viewed in some instances by the doctors as "doing as good work as a hospital nurse"; in others, as "a menace and a nuisance." But most physicians agree that in no instance are they to be compared in value to a trained nurse; yet they are largely in demand, because their charge is within the reach of the average Toronto income.

Medical men all testify to the value of the services rendered by the district and Victorian Order nurses; but their time is necessarily limited; they can make only brief daily visits, and while this is well in midwifery and certain other cases, it is not sufficient or satisfactory where the diseases are of a serious medical or surgical nature.

But the main objection to the service of the latter is that our average citizen feels that these are charitable organizations, and he has an instinctive pride that prefers not to make claim upon them.

A general practitioner on Bloor Street says that one of the registries will provide trained nurses who will attend midwifery cases, charging an initial fee of from three to five dollars, and subsequent visits at fifty cents each. It is not guaranteed, however, that the same nurse will follow the case through; she merely makes these occasional visits while she is waiting to be called to a case which will pay the regular rates.

The consensus of our replies to question No. 2 gives us to know that the majority of our citizens are compelled by reason of cost to make use of the services of the untrained nurse.

The last question was: Does any plan suggest itself to you as to what may be done to lessen any hardship this class of people may have in respect to nursing, (a) by hospitals or training schools, (b) by graduate nurses, (c) by visiting nursing organizations, or (d) by any other means you may think of.

A suggestion made by several of the correspondents is that there might be an arrangement by which nurses in training should be sent out into the homes, the people being asked to pay a specified fee for services; this, it is held, would give the nurse a wider experience, and teach them to adapt themselves to family environment; the change of work would stimulate interest in the regular hospital work; this visiting work to be under the supervision of graduate nurses. Another says, if a number of graduates were available as nurses in these homes for a short period after graduation, the results would be very beneficial to the people, to the hospital and to the nurses themselves.

One doctor says with an amusing combination of metaphors that the situation might be improved by constantly keeping before the minds of the undergraduates that they are entering a profession and not a trade; that, like medical practitioners, they should temper the wind to the shorn lamb and not exact the pound of flesh from all alike, meaning thereby that they should grade their charges to suit family needs. Of course, says another, it is a hardship to ask a nurse to take a case, devoting all her time at small fees, but this might be obviated by an endowment scheme to supplement the fees, and when nurses are off duty in the various homes visiting rates or at reduced fees, otherwise financial considerations will tend to make the ordinary experienced nurse the doctors' main assistant in all except wealthy patients' homes.

Another doctor says that the city might have a fund from which to pay the attending nurse, or some philanthropically inclined individual might provide a fund like the Straus' milk fund in New York City, from which nurses might be paid. Another doctor says that "an appeal might be made to the public for help for such a fund. A registry supported in some such way might be able to provide nurses at prices within reach of the great middle class. This would be a great boon. Some plan, however, would have to be devised which would guard against imposition and fraud, and which would make people in some way prove they were unable to pay the regular trained nurses' fees."

"It seems to me," another writes, "that properly trained nurses should be available at the rate of \$10 a week. There is no degree of seniority after graduation is once attained—one nurse is supposed to be as good as another. Let there be a classifying of graduates according to their standing in years or by a competitive examination. The junior graduates, or those who

stood lowest, could secure steady work among the middle classes at a lower rate than that now charged by graduates. It would be better for them to have steady work at a lower rate than fitful engagements at a higher rate." This writer maintains that when hospital training is over the great art of dealing with human nature is only just beginning. In his experience, the older nurse has a value far above the recent graduate, which to be appreciated does not need the prolonged observation, subtle as this difference is when attempting to describe it.

A Bloor Street physician writes:

"In the old days, before graduate nurses existed to any extent in most families, there were women, either maiden ladies or widows, who were tacitly admitted to be the ones to be sent for when anyone in the family circle took ill. These women never had any hospital training, but had a natural turn for nursing and were invaluable. Nowadays they seem to have passed out of existence. He thinks that if in any way such nursing could be again encouraged it would be a great blessing to the community. One way to do this would be by having classes like the St. John's ambulance classes of some years ago, in which women who had an inclination toward nursing could be taught some of the most essential things that they should know; making the beds properly, arranging the patient's toilet, preparing the food, taking the temperature, making poultices, etc. These women would in no way interfere with the practice of the graduate nurse, who will always be invaluable in all cases of severe illness, but they would often be of immense value to their friends and relations. This writer thinks that in addition to the doctors giving lectures many graduate nurses would be willing to deliver addresses to classes of these women and thus help greatly toward the lessening of human suffering."

"If the general public felt," says another, "that they could call a professional nurse who would give a portion of her time to the case requiring it, and would only charge for the time so occupied, I think possibly they might avail themselves of the services of such nurses to a greater degree. I do not think the people of Toronto recognize the value of trained nurses to as great an extent as do the people in American cities. The great bulk of those of moderate means, only in cases of great gravity, feel willing to pay the present rate asked by professional nurses fully trained."

"As a general practitioner who uses hospitals as little as possible, I am finding the best help by the teaching of cooking and dietetics to the young women of these families. When the rising generation of women are well trained in invalid cooking we

will be able to handle any case with a visit from a nurse for an hour a day."

So, we see, to sum up the opinion of the profession:

That the people of moderate means in the city are not well provided with trained nurses.

That it is desirable that they should be so provided.

That the work is in part done by nurses belonging to the Victorian Order, district nurses, "experienced" nurses, so-called, and by occasional graduate nurses.

That training schools might send out nurses to these families; this to constitute a part of their training, a fee being charged commensurate with the work done.

That the work might be done by graduate nurses, a fund being provided by some one to supplement the fees they would receive from the patients.

That we might resort to the resuscitation of the old type of family relative nurses, who would receive gratuitous instruction from medical men and graduate nurses.

That there is here a large field for nurses who are not as fully and as widely trained as the graduates of training schools with a three year course.

And further, that the work is one which is appealing more and more to graduate trained nurses who are not kept employed in the wealthier homes.

I have to-day learned from a nurse of another means apparently unknown to the doctors who replied to my queries, by which this want is commencing to be supplied, by an institution at which are registered the so-called "experienced" nurses and mothers' help, graduates from the smaller Canadian and American training schools, and of undergraduates, who, for good reason were not able to finish the regular course of training. The number of nurses on this list is thirty-five, and the work that they do is mostly among people of the middle class, who are able to pay less than the amount asked by graduate nurses.

Another fact my medical correspondents did not seem aware of has also been communicated to me—that in one of the larger registries in which some 250 trained nurses are registered, those lowest on the list, when not busy, will respond to calls from middle-class and poor families at reduced rates.

We may conclude, then, that the need of trained nursing in the homes of people in moderate circumstances is being felt by both the medical and nursing profession, and that an effort is now being put forth to supply it which should receive the greatest possible encouragement.—From the *National Hospital Record*.

NOTES ON NEURASTHENIA.

BY FREDK. J. HICKS, M.A., M.B. OXON., etc.

In the everyday practice of the gynecologist there is frequently met with a class of cases which, for want of a better name, may be designated as those of atony in regard to marital obligations in the female sex.

In the above designation dyspareunia is not included. This belongs to quite a different category, and its causes are generally local and easily ascertained, and accordingly removable. Nor has it anything to do with the question of sterility. In one patient I had to attend, coitus was followed by profound nervous shock and intense pain in the region of the ovaries, which necessitated morphia injections, but this patient was the mother of two children, and in both cases the pregnancies and parturitions were natural.

The condition referred to may also have many local causes, but when these have been removed by treatment suitable to each individual case, and this is so important a matter that no specific treatment can be effectually tried until it has been done, the apathy remains which, while it may not have anything to do with sterility, yet is a powerful factor against domestic happiness, as is much too insufficiently recognized, and is also an almost certain precursor of those very same ailments which originally brought the patient to her medical adviser.

The causes of such a condition are often obscure and difficult to investigate, the more so as the mere questioning may lead to the suspicion of pruriency, and reticence on the part of the patient is the natural outcome of the mode of education, wrongly based on one of the early chapters of Genesis, that the conditions of sex are to be regarded as something to be ashamed of.

But while the causes may be purely neurotic, psychic, or emotional, or inherited, they are generally to be looked for in the direction of, or perhaps it should be said estimated by, the intensity of the special senses, and more particularly in that of touch, which varies in individuals much in the same way as are the known variations in the power of seeing colors and detecting odors, to mention the two most frequently noticed aberrations from the normal.

This being the case it is evident the treatment has to be something other than local.

Of aphrodisiacs there are plenty so-called, all more or less useless, even in the male, for whom they are always in the main designed, and if generally useless here, they are more so for the purpose above mentioned. In speaking of the latest of these

drugs, viz., yohimbin, in a case recorded in the *Reichs-Medicinal-Anzeiger*, July 7th, 1901, Dr. Schalenkamp remarks that the drug had no effect in producing sexual feelings, etc., in the female.

It can easily be imagined that in a condition the causes of which are obscure, the treatment must be mostly empirical, and it is not, therefore, to be wondered at that the unknown effects of electricity in its many forms of application, direct current, faradisation, high frequency, etc., etc., should have been largely tried and highly advertised, but I have yet to learn that any good whatever has been effected in the direction I have spoken of.

There is, however, one drug that I have employed for many years with undoubted benefit in these cases, and this is the fluid extract of the root of muirapuama (*Liriosma ovata*) a Brazilian plant which I became acquainted with during my practice abroad in association with Portuguese medical men, and which in my hands appeared to be a mere tonic of the highest order. Preparations of phosphorus, and especially phosphorus itself, also seemed very beneficial, though much more uncertain, and often not well borne.

It was, therefore, a convenient discovery when I came across a preparation of muirapuama with licithin, under the name of muiracithin, and I forthwith tried it in sundry cases where the condition was, I may say, typical, and I have found it a perfect remedy in the neurasthenic condition, which is an invariable concomitant in these cases, and also on several occasions to have the specific effect required as well. I have generally prescribed the muirapuama in the form of the liquid extract in full doses of one drachm, in combination with an acid tonic and syrup of orange. In the case of muiracithin, this is already in the form of silvered pills, which I found to become readily disintegrated when macerated in cold water.

For neurasthenia I got good results with one pill thrice daily, but I occasionally pushed the remedy to six pills in the day, which seemed necessary to produce the specific results desired, but this should not be done till after a more or less prolonged course of the smaller dose. In no case is it of any use to try specifics until the general health and, especially, the digestion have been properly attended to, in addition to the removal of any local causes, and it is not, therefore, a medicine that can well be placed in the hands of the general public as an everyday *pick-me-up* or tonic.

Unfortunately, owing to the alterations at the British Medical Association Buildings, I have no access to a library or reference, and so am not able to mention other reports, but the pamphlet, issued by the sole agents for muiracithin, gives a list of those who have written about the drug and its effects.—*Medical Times and Hospital Gazette*.

The Canadian Journal of Medicine and Surgery

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the 1st of the month previous to publication.

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TORONTO, JULY, 1908.

No. 1.

Editorials.

EMPIRICAL EMPLOYMENT OF DIPHTHERIA ANTITOXIN IN CEREBRO-SPINAL, MENINGITIS AND PNEUMONIA.

DR. PORTER (*Post-Graduate*, May, 1908) reports four cases of cerebro-spinal meningitis treated by him with diphtheria antitoxin. He writes: "While the histories of these four cases are more or less irregular, the diagnosis seems justified by the general train of symptoms, Kernig's sign, and by the presence of the

diplococcus intracellularis—assuming that the presence of this particular diplococcus is as absolutely diagnostic of this particular disease as the tubercle bacillus is of tuberculosis.”

It appears that in Dr. Porter's cases diphtheria antitoxin was practically the only remedy used. In the first case 25,000 units were given; in the second case 10,000 units; in the third 10,000 units; in the fourth 15,000 units. The first, third and fourth cases terminated in recovery; in the second case, diphtheria antitoxine was not given until the disease had lasted for some three weeks, and the patient died. In the three successful cases, in which antitoxin was used early, the remedy seemed to cause at first a slight augmentation of all the symptoms, followed, in a day or two, by a progressive subsidence, which carried the intensity of the disease to a lower level than before the antitoxin was administered.

Dr. Porter offers no explanation for the curative action of the antitoxin in cerebro-spinal meningitis, classing it as an empirical remedy. None the less effective on that account, the rationale of cure may be obscure, the result eminently satisfactory. In May, 1901, we reported, in an editorial note in this journal the successful employment of diphtheria antitoxin in pneumonia. The note was founded on a report made by Dr. Talamon, Bichat Hospital, Paris, February 22nd, 1901. He had treated fifty cases of pneumonia, with seven deaths, and forty-two of his cases were undoubtedly alcoholics. The beneficial effects of the antitoxin were all the more marked in proportion to the early use of the serum. Defervescence began on the second day by lysis and not by crisis. Dr. Talamon injected hypodermically 20cc. of Roux's antidiphtheritic serum, morning and evening, until improvement was noted. He offered no logical explanation of the rationale of cure in a form of pneumonia usually fatal, but thought that the antidiphtheritic serum, acting on the cells of the organism, had an excito-phagocytic action, which is favorable in the treatment of infectious diseases. These results seem odd, and some practitioners may be inclined to doubt the therapeutic results obtained by Dr. Porter and Dr. Talamon. French ("Practice of Medicine," A.D., 1905, p. 130) writes as follows: "The antitoxin treatment of diphtheria is of benefit only in true diphtheria. Its action is limited to the neutralizing or antago-

nizing of the toxin produced by the Klebs-Löffler bacillus, and it is absolutely useless in streptococcus or other forms of infection." In the light of the evidence given by Dr. Porter and Dr. Talamon, Dr. French may, in a third edition of his valuable work, modify the absoluteness of his dictum. Dr. Talamon's results in pneumonia are most encouraging, and Dr. Porter's results in cerebro-spinal meningitis, though equally empirical, call for imitation.

J. J. C.

THE TWENTY-EIGHTH ANNUAL MEETING OF THE ONTARIO MEDICAL ASSOCIATION.

PERHAPS the most enjoyable, and without question the largest and most successful, meeting in the history of the Ontario Medical Association took place at Hamilton, Ont., on May 26, 27 and 28.

The 28th annual meeting of our Provincial Association was held under the Presidency of Dr. Ingersoll Olmsted, who filled the office with dignity and success. The meeting took place in the Normal School, Victoria Avenue South, a splendid building, and a credit to the city of mountain fame. This building is well lighted and ventilated and has good acoustic properties, and was a happy choice on the part of the Committee of Arrangements. The list of addresses, the papers read and their discussions, the symposium on "Arterio-Sclerosis," were all of a very high order. The programme of entertainments was full to overflowing, and the committee in charge of this are to be congratulated upon their success in affording such pleasure to the visiting physicians. Perhaps one of the most enjoyable functions during the meeting was the happy thought of President Olmsted in entertaining at dinner, at Hamilton Club, on the evening of Tuesday, the class who graduated with him at Toronto School of Medicine in 1886. The meeting of one's classmates, after a lapse of twenty-two years, was indeed a pleasure of no mean order. The President's address, delivered on Tuesday afternoon, was practical, and we reproduce it in this issue. As to the report of the meeting, which we had hoped to give our readers the benefit of this month, we extremely regret that the arrangements we made in this connection, due to no fault of ours, fell through. This, however, will

not in any way interfere with our printing quite a number of the papers during the next few months, which, perhaps, in the end will prove more acceptable, as society reports are, at best, somewhat dry.

The total attendance at Hamilton numbered a little over 300, which "speaks volumes" for Dr. Olmsted and his associates, who one and all worked very hard for a year to make the 1908 meeting, as it turned out, the banner one. The following are the list of officers elected for 1908-1909:

President—Dr. H. J. Hamilton, Toronto.

1st Vice-President—Dr. R. R. Wallace, Hamilton.

2nd Vice-President—Dr. A. Dalton Smith, Mitchell.

3rd Vice-President—Dr. A. M. McFaul, Collingwood.

4th Vice-President—Dr. George Field, Cobourg.

General Secretary—Dr. E. Stanley Ryerson, Toronto.

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Public Health—Dr. Jas. Roberts, Hamilton; Dr. W. R. Hall, Chatham.

Publication—Dr. Chas. Sheard, Toronto; Dr. Hadley Williams, London.

By-laws—Dr. James Third, Kingston; Dr. F. G. Sutherland, St. Catharines.

Ethics—Dr. Jno. Sheahan, St. Catharines; Dr. A. B. Osborne, Hamilton; Dr. H. R. Casgrain, Windsor.

The place of meeting next year will be Toronto.

W. A. Y.

THE INSPECTION OF DOMESTIC WELLS.

In Bulletin No. 149, Mr. McGill, chief analyst of the Inland Revenue Department, Ottawa, makes a plea for wells so constructed that no water can find entrance to them, without filtration through a depth of soil at least equal to the vertical distance between the ground level and the lowest level of ground water. To insure this, it is necessary to have the mouth of the well

raised a foot or more above the surface of the surrounding soil, and to have the brick, or stone, lining of the well backed up by a layer of puddled clay, a foot or more in thickness, and extending continuously from the level of the ground water quite up to the mouth of the well. By this construction, surface water is prevented from getting into a well until it has percolated through the earth to the line of level of the ground water. If, in each topographical area of Canada, there were a few thoroughly protected wells, of known depths, and of whose history a full record had been kept, the work of a well-water analyst would have a sure basis, and greater value would attach to the findings of chlorine, alkalinity, etc.

Details are given in the bulletin of the analysis of 32 wells in Weston, 32 wells in Richmond Hill, and 64 wells in Oakville, Ontario. The analyses show the chlorine per million parts, the alkalinity, the permanent, temporary and total hardness, in each sample of water.

Mr. McGill advises the municipalities named to complete the investigations started by himself. He says: "The town of Oakville probably contains over 500 wells. Thus, it will be seen that the sampling of 64, selected almost at random, and examined only once, cannot be regarded as more than a very superficial treatment of the question." Mr. McGill's remarks are opportune and are in keeping with advice repeatedly given by the Ontario Board of Health. Ever since its establishment that Board has shown that typhoid fever is caused by foul wells in country places, villages and towns. Worse still, city people, who go to the country for their health, sometimes bring back typhoid fever caused by the consumption of water drawn from unprotected wells.

It is creditable to Toronto to provide for the filtration of the civic water supply, which, now and for many years, has been polluted with colon bacilli. But even if a water filtration by-law should pass, and even if a practical filtration plant should be installed here, typhoid fever would not cease to appear in this city. Not to mention cases of that disease caused by defilement of food by flies, allowed to feed in open privies, what does our Local Board of Health know about the condition of wells on the dairy farms from which the Toronto milk supply is sent? Is it

known that these wells show no signs of fecal contamination? Are they, in every instance, 100 feet from privy vaults, stables and cow yards?

The Bulletin of the Chicago School of Sanitary Instruction, May 16, 1908, says, in reference to the wells on the dairy farms supplying milk to Chicago: "The dug wells in which the water passed inspection, in every case were lined with cement, and had water-tight cement covers on them, with a cement protecting flange, extending several feet from the well, near the top. Some of the wells, the water of which was being used for domestic purposes and for washing cows on dairy farms, were found to contain a high percentage of colon bacilli, and in some cases, the presence of cow manure could be detected microscopically and by the odor."

A civic by-law providing, among other regulations, that no dairyman should be allowed to send milk to Toronto, unless the wells on his farm were properly constructed, would not cost Torontonians anything; but would materially prevent outbreaks of typhoid fever here and elsewhere.

J. J. C.

THE CHICAGO MEETING OF THE AMERICAN MEDICAL ASSOCIATION AN INSPIRATION.

THE meeting of the American Medical Association in Chicago, June 2 to 5, speaks for itself and goes down to history as crowned with wonderful success. The physicians fairly thronged the down town portion of the city, causing one breezy newspaper to comment in truly western style thus:

"To-day Chicago is the best fortified city in the United States against disease. The microbes and germs have withdrawn in a disorderly retreat to the suburbs, from whence they watch sullenly the possession of the city by their traditional enemies. The casual pedestrian could safely step up to the man next him on the sidewalk and say: 'Beg pardon. Will you kindly assist me with my unilateral nystagmus?' And the stranger, in a true neighborly spirit, would whip out his little surgeon's case, deftly perform the operation, murmur 'It's nothing at all,' and catch the next car to the meeting to discover the 'surgical im-

portance of cervical ribs.' That's how thick the doctors are in Chicago for the meeting' of the American Medical Association."

The attendance, almost 6,500, the enthusiasm, the many present at each of the various sections, the diverse medical matters discussed, the perfect arrangements, the delightful social side with friendships renewed, all these elements made the 1908 meeting worthy of praise without stint.

Would that every Canadian physician had been there to further swell the ranks. May we not be termed a dreamer, nor our wish a day-dream, that ere long we may form an alliance of medical interests, a great meeting every year of the American-Canadian Medical Association, where the parallel lines that have so long run side by side, but can never meet, may fade away, and a circle be formed, a round table of students gathered closely near the light of the twentieth century lamp of science and research. Think of it, dream of it, accomplish it. We Canadians have been altogether too content with the humble prayer meeting spirit; the two or three gathering together as a matter of duty and looking for a blessing, and calling it a medical association meeting; the photograph is not a flattering one, but the negative is true to life. One hundred and eighty, or possibly two hundred, bodies and minds at the Ottawa meeting this year out of a population of six millions, and people say a doctor to every hundred, as a rough estimate. Let us destroy the negative. It isn't worth printing from. At the opening meeting in Chicago the large auditorium theatre was crowded, and perhaps never before have the members enjoyed so well listening to the various speeches of welcome and greeting, and to the presidential address, as not one word was lost, owing to the acoustic properties of the theatre being simply perfect.

The new president, Dr. Burrell, of Boston, delivered a bright, interesting address, nothing hackneyed. He dwelt principally on the topics of to-day, letting the past speak for itself, and looking forward to a wonderful (revolutionary in many respects) future being in store for medicine. The necessity for pure water, pure food, hospitals not alone for the sick poor, but for the dissemination of knowledge, medical enlightenment of parents to prevent them from sending their children to the neighbors to "catch something," so they could all "get it over" together,

public lectures on the prevention of disease, on sanitation, the inspection of school children and of employees in large stores and factories (which has been successfully carried on in some large stores in Boston), where, if a salesman falls behind in his usual amount of sales he is examined to see if physically he is not up to the health standard, were some of the vital subjects ably and convincingly handled by Dr. Burrell. He also rendered tribute to the country doctor, the all round old family practitioner.

The president also recommended articles written on medical subjects to be contributed to the lay press. With many others we feel that this departure would not be expedient at least in Canada. Many would read intelligently and benefit, others from curiosity, and perchance hoping to save a doctor's bill, ignorantly experimenting with serious, even fatal results. The foreign element in our cities would read, or listen, while others read, with awe, and feel the disease spoken of making immediate headway all through their anatomy, reminding us of the little girl who recited with gestures, and always pressed her hands tightly over her right thorax, and went on reciting about the pain and grief in her heart. May we add that Dr. Burrell's address was so full of marching orders to the work to be done that to all it must prove a constant inspiration.

"Thus by design or chance did he
Drop anchor to posterity."

The oration on Medicine was given by William S. Thayer, of Baltimore, and on Surgery by George W. Crile, of Cleveland, and were worthy of the men and of their theme. It may show a little the tendency of the medical men of to-day to look with longing eyes toward surgical skill, when we say that the surgical section held in Orchestra Hall, capable of seating about 2,500, was filled, and such men as Mayo, Murphy, Ochsner, Rodman, Bryant, Wyeth, etc., taking active part in the discussions. The question almost asserts itself, Are too many of our finest physicians forsaking the ranks to become (exclusively) surgeons? Their skill is undoubted, and it is not from that standpoint that we ask the question; but, if the fad of the hour, to have an automobile and an operation, should subside, and the public should refuse to be operated on, will not the pendulum swing backward again in a few years and the old family physician come again

into fashion with his good advice, and his quiet, determined "don't" become again a word to conjure with?

The American Medical Association will meet next year in the City beside the Sea, that most delightful place—Atlantic City.

W. A. Y.

THE AMERICAN MEDICAL EDITORS' ASSOCIATION.

WITH bright sunshine, all Chicago *en fête* in the streets to witness a giant (Decoration Day) procession, headed by veterans and "Grand Army" men, numberless bands playing national airs, and many sights, sounds and scenes to distract the attention and occupy the mortal mind, the quiet company of medical editors shut out the world and assembled in a ballroom of the Auditorium Hotel, arranged suitably for the meeting. A friendly lot of men who came to learn something, gentlemen by nature, physicians by profession, and editors by fate or chance, and not one of them who did not carry as gracefully as if by heredity this trinity of graces.

Dr. Charles Taylor, of Philadelphia, presided, and Dr. Charles Macdonald, the capable, was secretary.

The President's address was practical and conversational in style, covering and illustrating his ideas of editorial office work. Dr. Taylor's never failing courtesy and infinite patience have made for him a host of friends among his confreres.

Dr. MacDonald gave a very concise paper dealing with the business department of an editor's office. Many papers, short and to the point, and some very interesting discussions took place. It was to the pilgrim from Canada, a pleasure, a privilege and a short post-graduate course to be present.

An orator recently said that the spirit of the age in America was "cupidious acquisition." (We think he coined a word.) But, if the love of gain does hold sway in some callings, we were forcibly struck by the lack of that spirit shown by the American medical editors. In every paper an idealism or a sentiment akin to the sacrificing of the pennies to the little silent god, the worshippers at whose shrine crave the blessing of wisdom only, and the power to disseminate knowledge clearly, concisely and convincingly.

W. A. Y.

EDITORIAL NOTES.

Laboratory of the Inland Revenue Department, Ottawa, Canada, Bulletin No. 150.—In this bulletin, Mr. McGill, chief analyst, gives the results of the examination of ninety samples of canned salmon collected in February, 1908. The collection consisted of six samples taken in each inspectorial district of the Dominion. All the samples were found to be in good condition and true to name. It is gratifying to read such a report on the condition of a food product, which has sometimes been viewed with suspicion by the public. The results of the analysis are creditable to the salmon canners of Canada.

Demise of the "Indian Lancet."—We notice, with regret, that "there will be no more issues of the *Indian Lancet*, after the 27th of April, 1908." The *Indian Lancet*, Calcutta, which made its first appearance as a monthly, January 1st, 1892, and two years later, was changed into a fortnightly, was issued as a weekly since January 1st, 1901. During the last ten years or so, since we became acquainted with our Calcutta contemporary, first under the editorial management of Dr. Fernandez, and more recently under that of Dr. Monnier, we have read the *Indian Lancet* with pleasure and profit. The circumstances which produced its demise being unknown to us, surmise would be useless. We would fain hope that it may prove to be only a case of suspended animation, and, that under favorable auspices the talent and enterprise put into the *Indian Lancet* may not be irreparably lost to the medical profession and the people of India.

Typhoid Fever in India Due to Unfiltered Water and Defective Drainage.—Referring to an increase in the death rate from typhoid fever in Calcutta and its environs, the *Indian Lancet*, April 20th, 1908, says: "Very many cases of enteric fever are reported as 'remittent fever,' etc., and are not correctly diagnosed. The mortality of enteric fever out here is not very high—10 per cent. being the average. Europeans are more susceptible to this disease than Indians. Defective drainage and deficient filtered water supply are the two most potent causal factors of this malady. Typhoid and cholera are easily preventible dis-

cases, and improved sanitation is the keynote to their eradication."

A Diminished Consumption of Liquor in Canada.—Internal revenue figures show a large decrease in the consumption of liquor in Canada. For the months of November, 1907, to April, 1908, inclusive, the aggregate internal revenue receipts from the liquor traffic show a decrease of nearly \$450,000, or over 10 per cent. The decrease in the receipts for April, 1908, as compared with April, 1907, was 20 per cent. A shrinkage in the quantity of liquor manufactured in the United States amounted, in the first ninety days of 1908, to 25,000,000 gallons, 60 per cent. of which was for whiskey production and 40 per cent. for beer. This decline in the liquor and beer production of the United States is unprecedented. The present financial stringency may account in part at least, for the lessened consumption of alcohol in both countries; but the swelling of the prohibition wave seems to be a more potent factor. In the Southern States it is a question of keeping liquor from negroes, just as in Canada it has been necessary to make it unlawful to sell liquor to Indians. In the Western States and Provinces, prohibition is often an economical necessity, in order to prevent farm hands from obtaining liquor and getting drunk, at times when the crops have to be saved. An American railway company has adopted a policy in promotions, or in weeding out, where reductions on the force are made, of giving preference to total abstainers. Another railway has gone still further, and will employ abstainers only, in certain classes. Employees are signing the temperance pledge, chiefly as a means of retaining their places. Employers of labor in warehouses, manufacturing and trade establishments ask for clerks, who are abstainers. The age is a strenuous one, and the doctrine of the survival of the fittest is in the air. Employers will pay well for the best skill or talent; but not if it is weighted down with intemperance. Hence, it is unlikely, that a return of good times would increase the sale of alcohol in America and Canada. From the standpoint of reason, it is preferable to see total abstinence inculcated through economic necessities than through appeals to the emotions. At all events, the actual shrinkage in the consumption of liquor and beer in America and

Canada can be looked upon with satisfaction by all, except, of course, the distillers and brewers.

An Act Respecting Proprietary and Patent Medicines.— From a medical standpoint, the chief interest felt in the new Canadian Act respecting proprietary and patent medicines attaches to the list of forbidden drugs. This list (Schedule A) is as follows: Acetanilide, aconite and its preparations, arsenic and preparations containing it, atropine, belladonna and its preparations, cantharides, carbolic acid, chloral hydrate, chloroform, cocaine and its preparations, conia and compounds thereof, corrosive sublimate, cotton root, croton oil, digitaline, ergot, essential oil of mustard, ether, hellebore, heroin, hyoseyamin and its preparations, Indian hemp, morphine and its preparations, nux vomica, opium, its preparations and derivatives, pennyroyal, phenacetine, prussic acid, savin and the preparations thereof, strychnine and its preparations, sulphonal, tansy, tartrate of antimony, veratria. According to subsection C, section 7 of this Act, a proprietary patent medicine, containing any drug included in the above list, may be manufactured, imported, exposed, sold or offered for sale, if the name of the drug is conspicuously printed on an inseparable part of the label or wrapper of the bottle, box, or other container. This means that the public are to be allowed to purchase patent medicines containing any one of the above-mentioned drugs, if the name of the drug confronts the purchaser on the label of the bottle, box or other container. To illustrate: Mrs. Winslow's Soothing Syrup for Infants may be sold without restriction, if the word morphine appears on the label of each bottle of this preparation offered for sale. To prevent the consumption of proprietary or patent medicines, which are said to be used as alcoholic beverages, it is provided in subsection B, section 7, that no proprietary or patent preparation shall be manufactured, imported, exposed, sold, or offered for sale, if it does not contain sufficient medication to prevent its use as an alcoholic beverage, or if it contains alcohol in excess of the amount required as a solvent or a preservative. Provision is made for the analysis of patent medicines and for the remuneration of the analysts. Manufacturers or importers are obliged to furnish, each year, to the Minister of Inland Revenue a list of the medicines, which it is proposed to manufacture or import; on

payment of a fee of \$1 they procure a certificate of registration. The name and number under which a proprietary or patent medicine is registered with the words, "The Patent Medicine Act," and also the manufacturer's name and address shall appear on the labels of all proprietary or patent medicines intended for sale or distribution in Canada. Provision is not made in this Act for a revelation of the formulæ of proprietary or patent medicines to the Minister of Inland Revenue, neither is there any provision for the publication of formulæ on labels, other than what has been referred to above.

Cancer in the British Colonies.—In an editorial appearing in the *British Medical Journal*, May 2, 1908, p. 1067, reference is made to a report from the Natal Cancer Research Committee for 1906. The death rate from malignant disease among Europeans in Natal is given as 0.46, but it has to be borne in mind that only 3.4 per cent. of the European population in Natal, as against 5.9 per cent. in England and Wales, were in the age period—55-65—which provides the maximum mortality from cancer. That cancer is comparatively infrequent among the natives of Natal would, however, seem to be shown by the following facts: In a population of 930,000, with 12,255 deaths, no death was attributed to cancer. Again, the district surgeon of Mapanulo, a district with a native population, which, in 1905, was estimated at 32,052, states that no cancerous disease occurred in the district during the year. Here, too, the age factor must not be left out of account, only 13.7 per cent. of the Natal natives reaching the age of 40; as against 25.7 in England and Wales. Among the Indian population of Natal, estimated at 98,049 in 1906, only five deaths were certified as due to cancer. Only 1.7 per cent. of the Indians, however, were in the cancer-age period. With regard to British Guiana the total number of cases of malignant disease admitted into the Public Hospital, Georgetown, from April, 1906, to March 31, 1907, was 140. Among these cases, carcinoma of the penis and of the cervix uteri was particularly common."

J. J. C.

Proceedings of Societies.

THE CANADIAN MEDICAL ASSOCIATION.

THE 1908 meeting of the Canadian Medical Association, held at Ottawa, June 9, 10 and 11, was successful from many stand-points. The addresses, papers and entertainments filled the three days with profit and pleasure. The attendance was not as great as at some previous meetings, yet in the various sections good interest was shown and the rooms provided for section meetings were frequently overtaxed. This was most noticed in the Surgical Section. The papers presented at the association were of good quality, and after the first day discussions were often animated.

Some who promised papers failed to attend, and a few of these did not even send their communications to the secretary. It was disappointing that in one section, of six papers on the programme only three were presented. When papers have been promised it is surely incumbent upon the essayist to be present in person, and if not, at least to send his paper.

At the first business session the association representatives on the Executive Council were elected. J. C. Mitchell, Brockville, Chairman; R. W. Powell, W. I. Bradley, Col. Jones, A. T. Shillington, W. Hackney, Ottawa; G. E. Armstrong, F. A. L. Lockhart, E. P. Lachapellé, James Bell, Montreal; J. T. Fotheringham, R. A. Reeve, C. J. C. O. Hastings, J. H. Elliott, Toronto, and A. B. Atherton, Fredericton. The remaining members of the Executive Council are the representatives from the Provincial Association as provided for by the new constitution, by which the various provincial medical associations are constituent parts of the Canadian Medical Association.

The report of the special committee on an association journal was received. They recommended the publication of a monthly journal if the association could guarantee a subscription list of not less than 1,500 members at \$5 per year, \$3 of which goes towards the journal. The committee were discharged, and the matter is now in the hands of the Finance Committee, which is practically the business executive of the association, Drs. J. T. Fotheringham, F. N. G. Starr, Toronto; G. E. Armstrong, James Bell, Montreal; R. W. Powell, Ottawa. It was suggested by Dr. Bell that some of the leaders of the profession in Canada might

ensure the success of the journal by guaranteeing a fund for its support for a few years.

It is manifestly impossible to discuss the proceedings of the various sections into which the association divided, viz., Medicine, Surgery, Gynecology and Obstetrics, Mental and Nervous Diseases, Eye, Ear, Nose and Throat, Public Health, Laboratory Workers and Military Medicine. The papers were well up to standard.

The address in Medicine given by Dr. J. S. Risien Russell, of London, Eng., will not soon be forgotten. Those who have had the pleasure of listening to his teaching in London were delighted to welcome him to the meetings of the Association, while those who heard him for the first time when giving his address on "The Value of Reflexes in Diagnosis," were charmed with his fluent speech, his faultless English and his wide knowledge of the subject in hand. Before the sessions closed Dr. Russell was elected an honorary member of the Canadian Medical Association, an honor which has been conferred on few, and as far as we can recall, has not been conferred for ten years or more. Dr. Russell's fund of humor was shown to good advantage on the platform, in making his subject one which at times drew applause and laughter from his audience, particularly when he undertook to explain to the ladies present the subject matter of the address, illustrating the same, and recalling some amusing consulting-room experiences. The entertainments included, on the first afternoon, a reception at the Golf Club by Dr. and Mrs. Montizambert, assisted by Mrs. (Dr.) Kidd. The same evening the President read his address. His subject was "Hygiene," and Dr. Montizambert handled his theme in a clear and comprehensive manner. He opened his discussion with a consideration of the hygienic rules of primitive communities and traced the development of the science of sanitation from the earliest times up to the present date. In particular did he deal with the duties of the municipality and of the state in regard to the public health, and closed by urging the establishment of a department of public health in Canada. Sir Wilfrid Laurier, who was present, and spoke after Dr. Montizambert, assured his audience that he had heard all that Dr. Montizambert had said, and that he would mark and inwardly digest it. While committing himself in no way he gave it to be understood that he agreed with the speaker in all that he had said.

Dr. Montizambert went back into the realms of mythology and folklore for the origin of his subject. He spoke of the primitive belief which saw the machinations of an evil spirit in every ache and pain; of the gods of sickness and health in the Babylonian, Assyrian and Egyptian pantheons, and finally brought his

bearers down to Apollo, the patron god of medicine among the Greeks. Apollo, said the doctor, delegated his medicinal offices to his son, Æsculapius, and the rules of health had in turn become the especial province of his daughter, Hygeia. It was at her shrine that he proposed to pay tribute that evening.

Dr. Montizambert divided the history of sanitation into four eras: First, the domestic era, in which the centre of hygienic regulation was the individual household; secondly, the Roman or municipal period; thirdly, the Gothic or national period; and, fourthly, the international era, which had had its origin within the present generation.

The most perfect set of rules produced under the first era were, said the speaker, those attributed to Moses, and set forth in the Book of Leviticus. Than these no set of regulations better adapted to the people for whom they were prepared had ever been drafted. He spoke of the custom of primitive people in regarding dirt as something sacred, a frame of mind which, he said, had lasted down until mediæval times, when the hermits and ascetics had been in the habit of looking on pollution of the body as signifying purity of heart.

The individual family, said Dr. Montizambert, was still the great centre for the spread of hygiene. Public legislation was all very well, but in his opinion more could be accomplished by instruction in the home than by laws. "If," said he, "every citizen could be led to consider himself personally responsible for the public health, if every householder would see that his backyard was kept in a sanitary state, and that his plumbing was in good condition, the work of the health officers would be immensely reduced.

In instilling proper rules into the minds of the children a great responsibility rested upon the mother of the family. Particularly, he stated, should the children be taught to breathe through their noses, to eat slowly and not to squeeze their waists. He insisted on the importance of proper covering for the feet, and decried the habit of exposing the chest and shoulders and unnecessarily swathing the lower limbs. The proper ventilation of the home was also, he stated, of the greatest importance, while too much weight could not be attached to the removal, not the mere disturbance, of dust. Ice, he held, should not be placed directly in refrigerators and water coolers, but put in a jacket surrounding the objects to be cooled. Finally, he insisted on the importance of good hours.

"Consequent upon the great improvement in the lighting systems," said he, "the young people of the present generation have fallen into the habit of turning night into day. This I regard as being responsible for more nervous breakdowns than any-

thing else. The hours of darkness were made for sleep. I fully believe in the truth of that old saying as to the relative values of sleep before and after midnight, and I just as fully disbelieve in that old saw which says 'six hours' sleep for a man, seven for a woman and eight for a fool.' Personally, I should be inclined to regard as the fool the man who could take eight hours and does not do so."

The doctor also decried the habit of indiscriminate kissing. To protest against the kiss of love and pure affection would be, he said, bootless and pure waste of time upon his part, as upon that of any man, medical or otherwise. What he did protest against was the habit of promiscuous kissing among ladies, and he further urged the abolition of the custom of loading infants with caresses.

The doctor closed his discussion of sanitation in the home with an appeal to his hearers to let the sun and fresh air into their houses. "It is," said he, "far better to have your carpets faded by the sun than to have your cheeks faded by sickness."

The members received a very warm welcome from Sir Wilfrid Laurier, Premier of the Dominion.

Sir Wilfrid extended a hearty welcome to the doctors, their wives and their lady friends. "I extend to you all," said he, "the warmest sort of welcome—as warm as our weather, and than that it is possible to say nothing more."

The Premier referred to a break-down from which he had suffered some five years ago. "At that time," said he, "I went to a local doctor, and asked for advice. What he told me can be put in a few words. 'No drugs; lots of rest and simple food.' Now, although I am not a medical man, I read something on the subject in my youth, and the prescriptions of which I had a memory were very different from that. When I went to London I thought that I would consult a specialist there and see that his advice agreed with that given by my Ottawa friend. I went, and there I was told: 'No drugs; lots of rest and simple food.' Shortly after that I was in Paris, and there I went to one of the lights of the medical profession. He told me exactly the same thing as the first two. After that I came back and placed myself in the hands of my Ottawa doctor. And, ladies and gentlemen, here I am.

"When you speak of the national government," he continued, addressing Dr. Montizambert, "I, of course, am unable to turn a deaf ear. The national government is always open to conviction, although sometimes somewhat slow about being convinced. It is, however, like the kingdom of heaven; by continually knocking at the door, the door is at length opened to you."

In regard to the establishment of tuberculosis sanatoria, the

Premier candidly stated that he would not commit himself. He said, however, that he and his ministers were always open to conviction, and that once the doctors had been able to convince them by their arguments they would be delighted to act upon the suggestions of the medical men.

On the second day the Canadian Pacific Railway placed a special train at the disposal of the association, and conveyed the members to Caledonia Springs, where they were served with luncheon, at which Sir James Grant addressed the members. That evening were delivered the address in Medicine, by Dr. J. S. Risien Russell, London, and on Surgery, by Dr. John C. Munro, of Boston, Mass. The last evening the members were entertained at a smoker at the Russell House, at which Dr. Russell returned thanks for being elected to honorary membership in the Canadian Medical Association.

Winnipeg was selected as the next place of meeting. Officers were elected as follows:

President, R. J. Blanchard, Winnipeg; Secretary, Dr. George Elliott, Toronto; Treasurer, Dr. H. B. Small, Ottawa; Finance Committee, Drs. Fotheringham, Toronto; Starr, Toronto; Powell, Ottawa; Bell, Montreal; Armstrong, Montreal.

Chairmen of Committees: On Medical Legislation, Dr. A. T. Shillington, Ottawa; on Medical Education, Dr. R. A. Reeve, Toronto; on Public Health and Hygiene, Dr. C. J. O. Hastings, Toronto; on Amendments to the constitution, Dr. H. B. Small, Ottawa; on Necrology, Dr. J. H. Elliott, Toronto. J. H. E.

ITEMS OF INTEREST.

The Medical Era's Gastro-Intestinal Edition.—The *Medical Era*, St. Louis, Mo., will issue its annual series of Gastro-intestinal editions, during July and August. In these two issues will be published between forty and fifty original papers of the largest practical worth, covering every phase of diseases of the Gastro-intestinal canal. Sample copies will be supplied readers of this journal.

The International Laryngo-Rhinological Congress.—Through the courtesy of Dr. D. J. Gibb Wishart we recently received a programme of the International Laryngo-Rhinological Congress. Judging, too, from Dr. Wishart's letter, the Congress must have been an immense success. The doctor saw some splendid throat work in Naples, Rome and other cities, finishing later by taking a special course in bronchoscopy at Freiburg and Heidelberg. Over twenty-five Englishmen attended the International Laryngo-Rhinological Congress, which was held at Vienna.

The Physician's Library.

BOOK REVIEWS.

International Clinics. A Quarterly of Illustrated Clinical Lectures and especially prepared original articles. Edited by W. T. LONGCOPE, M.D., Philadelphia, U.S.A., with the collaboration of William Osler, M.D., Oxford; John H. Musser, M.D., Philadelphia; A. McPhedran, M.D., Toronto; Frank Billings, M.D., Chicago; Chas. H. Mayo, M.D., Rochester; Thos. H. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; John Harold, M.D., London; Richard Kretz, M.D., Vienna. Volume I., eighteenth series. 1908. Philadelphia and London: J. B. Lippincott Company.

These volumes are divided into sections and Vol. I. of this series has especially interesting and practical departments devoted to Treatment, Medicine, Surgery and the Progress of Medicine during the year 1907.

In the section on Treatment an article by Dr. Darbel, of Savoie, France, on the "Treatment of Syphilis by the Injection of Soluble Salts of Mercury," and another by Dr. Dingwall Fordice, of Edinburgh, on "Some Records of the Value of the Opsonic Tests for Diagnoses, and of the Employment of Vaccines in the Treatment of Certain Infectious Conditions," shows advanced work in these comparatively new fields of investigation.

In Medicine, Sir Dyce Duckworth, of London, England, writes very entertainingly on "The Personal Factor in Medicine, that is, the personal factor in the patient." He says: "We are much engaged with the seed, and are insufficiently mindful of the soil, for it is a question of seed and soil, and neither can be disregarded.

If we are to recognize easily the abnormal we should be especially familiar with the normal. This is well illustrated in an excellent article by Dr. R. D. Rudolf, of Toronto, on the "Normal Temperature of the Body." He has treated this common subject in an exhaustive and illuminative manner. Dr. Rudolf finds that the normal band may run from, say, 97.2 to 98.4.

In the Surgical Section, "Diseases of the Gall Bladder," by Dr. John B. Deaver, of Philadelphia, is very instructive. He

emphasizes the fact that gall stones do not exist for years without causing symptoms. Our duty is to interpret these aright. He insists that the danger in the removal of an ulcerated gall bladder, of a stone or stones from the common duct, is not great when compared with such sequelæ as suppuration, chronic jaundice, cirrhosis or cancer of the liver or pancreas, with the possibility of diabetes, biliary fistula and gall stone ileus.

"Perforated Gastric and Duodenal Ulcers," by Benjamin T. Tilton, of Cornell, is treated quite fully. He is very conservative, and emphasizes the simple methods. He closes the ulcer with silk. After sponging or irrigating with normal saline, according to the severity of the case, he uses a cigarette drain passed down to the visceral suture. He does not drain the pelvis, and advises Fowler's position. He discusses at length the class of case in which surgical interference is most likely to succeed.

In Neurology, Dr. G. F. Walton, of Boston, writes on "Fracture of Spine." His illustrations are very clear, and he calls attention once again to the fact that complete destruction of the upper spinal cord produces not only loss of power and sensation below the lesion, but loss of reflexes as well. In the reviewer's opinion he hardly emphasizes enough the importance of early operation to relieve pressure on the cord.

The subject matter in the sections on Gynecology and Pathology is varied and deserving of careful perusal.

In the section, Progress of Medicine, 1907, the references and extended notices to all the latest advances wherever made, are almost encyclopedic in character.

The volume is very complete, deals extensively with many subjects, and will prove a splendid addition to any doctor's library.

J. N. E. B.

The Practical Medicine Series. Comprising ten volumes on the year's progress in medicine and surgery, under the general editorial charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. I., General Medicine, edited by Frank Billings, M.S., M.D., head of the medical department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Series 1908. Chicago: The Year-Book Publishers, 40 Dearborn Street.

The present volume is one of a series of ten issued at about monthly intervals, and covering the entire field of medicine and surgery, each volume being complete for the year prior to its publication on the subject of which it treats.

While these volumes are published for the general practitioner,

they are so arranged that those interested in spinal subjects may buy the part or parts they desire. This volume contains 408 pages, and covers diseases of the respiratory organs, circulatory organs, diseases of the blood vessels, and of the blood and blood-making organs, general infectious diseases, diseases of the ductless glands, metabolic diseases and diseases of the kidneys.

A good deal of attention has been paid during the year to tuberculosis, and that the diagnosis may be made early all the newer aids are being used, *e.g.*, tempera are range, the relative intensity of the breath and voice sounds over the upper and lower portions of the upper lobe of a lung, X-ray methods, vaccination with tuberculin, ophthalmic reaction and opsonic index. Space will not permit us to particularize, but we can safely say the best work of the year in medicine is recorded under the various headings.

W. J. W.

The Horse: Its Treatment in Health and Disease, with a complete guide to breeding, training, and management. Edited by PROF. J. WORTLEY AXE, M.R.C.V.S., ex-President of the Royal College of Veterinary Surgeons; late lecturer at the Royal Veterinary College and at the Agricultural Colleges of Downton and Wye; Chief Veterinary Inspector to the Surrey County Council; Consulting Veterinary Surgeon to the British Dairy Farmers' Association; Author of "The Mare and Foal," "Abortion in Cattle," "Anthrax in Farm Stock," "Examination of Horses as to Soundness," "Glanders: Its Spread and Suppression," "Swine Fever," "Lithotomy, or the Removal of Stone from the Bladder of the Horse." Published in nine volumes. Divisional Volumes VIII. and IX. London, England: The Gresham Publishing Co., 34 Southampton Street, Strand, 1907. Canadian agents: D. T. McAinsh & Co., Bay and Adelaide Streets, Toronto.

Perhaps one of the most instructive volumes of this capital series is Divisional Vol. VIII. It is devoted to Equine Locomotion, Breeding, Stables, Horse Training, Examination of Horses as to Soundness, The Teeth of the Horse and Warranty. The section that interested us most was that on Examination of Horses as to Soundness. This is, to an outsider and one who cannot claim to be a veterinary surgeon, perhaps, the most practical chapter in the entire work. The being able to examine a horse and to pronounce him sound or otherwise is most important and Professor Axe in his book points out how this can be done. The author goes into the examination of the eyes, nose, mouth and head; points out the defects in conformation and deformities, and teaches how to correctly make the necessary examination of the horse's legs, feet and wind. Under section 10, Professor Axe

goes into the details of the eruption of the teeth, and therefore the age of the animal, also a most important matter to the prospective purchaser.

Divisional Vol. IX. is devoted to Horse-shoeing, The Transit of Horses, The Horse and its Position in the Animal World, and closes with The History of the Horse, describing under this sub-chapter, The Grecian Horse, The Horses of Rome, The Horses of Asia and Africa and the Horse in Britain.

Again we take the opportunity of congratulating Professor Axe and the Gresham Publishing Co. on the exceeding excellence of the book and its high standard as a scientific publication.

W. A. Y.

Le Cancer, Prophylaxie—Étiologie—Traitement. Par LE DOCTEUR C. SOBRE-CASAS, Médecin de l'hôpital Rawson, Buenos-Aires. Paris: G. Steinhil, Editeur, 2 Rue Casimir-Delavigne. 1908.

In a work of 224 pages, published in French, Dr. Sobre-Casas, Rawson Hospital, Buenos-Aires, Argentina, tells what has been written on the prevention, etiology and treatment of malignant tumors. There are eight pages of bibliography.

In the chapter on prevention he shows what measures are being taken by the most civilized nations of the world, in order to prevent the disastrous consequences of cancer.

Under the head of etiology he describes the most important parts of the different theories, under which endeavors are made to explain the genesis of cancer. Under treatment he gives full accounts of all treatments used for cancer, with special references to surgical treatment, "the only one which renders real services." The results of treatment are shown by statistics.

It is a meritorious compilation, and deserves to receive the patronage of the medical profession. It should be translated into the English language.

J. J. C.

A Text-Book of Practical Gynecology. For Practitioners and Students. By D. TOD GILLIAM, M.D., Emeritus Professor of Gynecology in Starling-Ohio Medical College, and sometime Professor of Gynecology, Starling Medical College; Gynecologist to St. Anthony and St. Francis Hospitals; Consulting Gynecologist to Park View Sanitarium, Columbus, Ohio; Fellow of the American Association of Obstetricians and Gynecologists; Member of the American Medical Association, of the Ninth International Medical Congress, etc. Second, revised edition. Illustrated with 350 engravings, a colored frontispiece, and 13 full-page half-tone plates. 642 royal octavo pages. Extra cloth, \$4.50 net; half morocco, gilt top,

\$6.00 net. Sold only by subscription. Philadelphia: F. A. Davis Company, 1914-16 Cherry Street.

This work contains 642 pages, including the usual index and an index of regional symptoms, which is rather a new feature and one that may prove useful to many readers. The book is well written, has good, clear type and good paper. The author has been careful to keep down the size by excluding doubtful matter and making few citations of authorities. In fact the whole design is to make a work at once convenient, full and useful. It is divided into fifty chapters, varying from ten to sixteen pages each, is well illustrated, and covers the subject of gynecology in a most concise and satisfactory manner. Goffe's operation for extensive cystocele, and Watkins' operation for post-climacteric prolapse of the uterus are new and described fully in this the second edition.

We are very much pleased with the work and have much pleasure in recommending it to our friends. w. j. w.

American Practice of Surgery. A complete system of the science and art of surgery, by representative surgeons of the United States and Canada. Editors, JOSEPH D. BRYANT, M.D., LL.D., and ALBERT H. BUCK, M.D., New York City. Complete in eight volumes. Profusely illustrated. Volume IV. New York: Wm. Wood & Co. 1908.

Volume IV. of this magnificent work reached us a few weeks ago. The more one looks into "American Practice of Surgery," the more convinced one becomes that it has been a prodigious undertaking. Volume IV. includes among its contributors such well-known writers as Freeman Allen, of Boston; Russell S. Fowler, New York; F. E. Garland, Boston; George Ben Johnston, Richmond, Va.; John M. Keyes, New York; Charles B. G. De Mancrede, Ann Arbor; Charles F. Painter, Boston; W. L. Rodman and John Stewart Rodman, Philadelphia; George David Stewart, New York; James S. Stone, Boston; Horace J. Whitacre, Cincinnati; Royal Whitman, New York; and last, though not least, our own popular Clarence L. Starr, Toronto. This volume consists of the continuation of Part XIII., dealing with Diseases and Injuries of Joints. It also includes Parts XIV. and XV., covering Operative Surgery and Orthopedic Surgery.

Under Operative Surgery, we find some splendidly written and well-illustrated articles on such subjects as "Influences and Conditions which should be taken into account before one decides to Operate" (an article teeming with common sense); "The Preparation for an Operation, the Operation Itself, and the Care of the Patient during and immediately after the operation," "Anesthetics and the Production of General Anesthesia," "The

Production of Local Anesthesia for Surgical Purposes," "Amputations and Disarticulations," "Excisions of Bones and Joints," "Ligature of Arteries and Veins in Their Continuity," "Minor Surgery" and "Plastic Surgery."

Part XV., covering Orthopedic Surgery, includes such subjects as "Congenital Dislocations," "Torticollis," "Infantile Paralysis," "Deformities and Disabilities of the Lower Extremities" and "Tuberculous Disease of the Spinal Column and the Deformities resulting therefrom." The last-named sub-chapter is from the pen of Dr. Clarence Starr, Toronto, and is exceedingly able.

After a short historical sketch, the section deals comprehensively with the pathology, both minute and gross, of the tuberculous spine, showing the changes which take place in the vertebral bodies, with secondary changes in the thorax and abdomen. Especial attention is drawn to the method of formation and character of the tuberculous abscess. This portion of the work is largely illustrated, for the most part by reproductions of cuts from Joachimsthal's *Handbuch der Orthopadischen Chirurgie*, with some original photographs from the author's own cases.

In the consideration of the etiology, interesting deductions are drawn from the series of tuberculous spines treated in the Hospital for Sick Children, in Toronto. The treatment covers widely the generally recognized principles of treatment of this disease of the spine, emphasizing especially the necessity for greater attention to the constitutional treatment. This is considered under the headings of: "Hygienic Measures," where a description of the out-of-door life at the Lakeside Hospital is given; "Dietetic Regimen," advocating similar attempts to improve nutrition and increase resisting power, as are advocated in pulmonary lesions; "Medicinal Treatment and Tuberculin Inoculation." The complete recumbency during the early, acute stage is insisted upon, and advised for a longer period than is commonly thought necessary.

The mechanical treatment is adequately covered, and details as to the method of application of plaster jackets, and the manufacture and adjustment of spinal supports for the various portions of the spine are clearly shown. The original work of the author in the treatment of abscesses is elaborately set forth and statistics of successful treatment shown.

The photographs illustrating this section are almost entirely original, being drawn from the Children's Hospital cases.