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CANADA

MEDICAL & SURGICAL JOURNAL

FEBRUARY, 1881.

Original Communications.

CASES OF HODGKIN'S DISEASE.

By WM. OSLER, M.D., M.R.C.P., LOND.

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There is at present a tendency among certain writers to the belief that the various diseased conditions of the lymphatic glands are so related as to form a pathological series, the members of which may pass the one into the other. Thus Dr. Goodhart, of Guy's Hospital, says: "We find the following conditions of the lymphatic glands all closely related to each other: First there is a local chronic inflammation (the so-called scrofulous gland); next a local simple tumour, called by some hypertrophy; lastly a local malignant tumour, some varieties of which are called by some lymphatic cancer. These are all *local*. But there is also a parallel series of generalized affections, a diffused chronic inflammation or scrofulous state, a diffused or general simple tumour, a generalized malignant tumour, and with the exception of the scrofulous or caseous group . . . and perhaps of the generalized malignant tumour, these various conditions can be shown upon very good clinical, if not pathological evidence, to lead the one into the other." However this may be, the cases characterized by a certain set of clinical features have been conveniently grouped together, and are described under the various names of *Hodgkin's Disease*, *Anæmia lymphatica*, *Adénie*, *Pseudo-leukæmia*, &c. The distinctive features of this affection are: gradual enlargement of groups of lymphatic glands, gene-

rally also of the spleen, disseminated lymphatic growths in the viscera, and anaemia with more or less cachexia. To the morbid process in the glands, the names of Lymphadenoma, Lymphosarcoma, Malignant Lymphoma, Desmoid Cancer, &c., have been given, and they indicate the diversity of opinion that prevails with regard to the nature of the growth. In the majority of instances, perhaps the term lymphadenoma is applicable, as the enlargement is due to an increase in the normal tissues of the gland, though the relation between the constituent elements is scarcely maintained so closely as in simple hypertrophy from irritation. In other cases the growth resembles an actively-growing sarcoma, and may involve contiguous tissues, or even infect distant organs. The following cases illustrate many of the chief features in the clinical history and morbid anatomy of the disease :—

CASE I.—*Lymphadenoma of the Retro-peritoneal glands—Enlargement of the Spleen—External Glands not affected.*—C. C., an immensely stout man, aged 40 years, first complained in May, 1876, of severe pain in the lumbar region. It evidently followed the course of the lumbar nerves, and there was tenderness over the same parts. This was called and treated as lumbar neuralgia, which it certainly was. There was at this time no alteration in the general condition of the patient, who maintained his usual appetite and strength. Some months later, and after the lumbar pain had continued with varying intensity, other symptoms occurred. Pains were felt down both legs, but more especially the left, and occupying mainly the anterior aspects. He began to feel weak and to lose flesh, and the pulse became soft and habitually rapid. The loss of weight was neither rapid nor excessive, but his muscles became soft and flabby, and he kept throughout an enormous corpulency of abdominal fat. After this a new direction of pain was experienced, viz., along the left spermatic cord, sometimes very severe. Then chills appeared; these occurred at irregular intervals, sometimes slight, but at other times amounting to well-marked rigors. After these, the temperature would be quite high, 100°F. to 104°F., and during the interval, though much lower, it was nearly always a degree

or more above the *norme*. Diarrhoea set in, and obstinately resisted the use of astringents and other remedies. Exhausted by the very severe pain, which constantly required hypodermic injections of morphia for its relief, by the diarrhoea, which was generally copious, by the fever and by colliquative sweating, he gradually sank and died, 1st March, 1877. The case was certainly one in which it was extremely difficult to arrive at a positive diagnosis. The opinion held during life was that there was either deep-seated abscess in the abdomen (peri-nephritis?) or that malignant disease occupied the deep abdominal glands and pressed on the lumbar nerves. The former seemed the more probable explanation, being favored by the rigors, fever, sweatings and diarrhoea in the later stages. The autopsy alone revealed the true nature of the case—lymphadenoma of the retro-peritoneal glands, there being also a large spleen. This condition was not suspected during life, which will not be wondered at when the extreme rarity of such an occurrence is considered, and the fact that there were no enlargements whatever in the external parts which might have led to a suspicion of similar trouble in the corresponding internal lymphatics. It should be said that the extreme corpulency of the patient quite precluded the possibility of recognizing a moderate enlargement of the spleen. The blood was not examined. It is doubtful if, even had this been done, any material assistance would have been rendered in the diagnosis.

Autopsy, 24 hours after death.—Body that of a large-framed, somewhat corpulent man. Abdomen large; no œdema of legs. Skin very pale. External lymph glands not enlarged.

In peritoneum, about 30 ozs. of turbid serum; intestines of a dark slate-grey colour. In thorax, a few ounces of turbid serum in pleuræ. *Heart* soft, and the sub-pericardial fat is in excess; chambers contain dark blood and clots; valves are healthy; muscle substance very pale, of a yellowish-brown colour.

Lungs are crepitant throughout. No enlargement of bronchial or mediastinal glands.

Spleen is much enlarged, measures 35 cm. in length by 15

em. in breadth ; capsule is thin ; pulp soft, of a dark purple-red colour ; trabeculae not much developed.

Kidneys : fatty, capsules thick and more fibrous than usual ; organs are large and flabby, cortices swollen ; vessels of pyramids injected ; many of the straight tubules are filled with urinary salts.

Liver not enlarged ; substance pale and looks fatty.

Stomach and intestines present nothing of special note. Peyer's glands not enlarged.

When the intestines were turned out, the chain of lymphatic glands about the aorta and iliac vessels were seen to be greatly enlarged. Beginning immediately below the diaphragm, they extended in a continuous series to the femoral rings, involving the lumbar, sacral and internal iliac groups. They were entirely retro-peritoneal, and the affection was limited to the glands above mentioned, not involving the mesenteric or external iliac. Though in contact, the individual tumours were distinct, and could be isolated. Along the aorta to its bifurcation they were about the size of large walnuts ; close to the lower end of the left kidney there was one the size of a small apple. Four or five large ones were situated on either side of the external iliac arteries. One on the left side lay directly upon the genito-crural nerve ; another on the same side plugged the femoral ring. In the course of the internal iliacs the tumours were not so large. The larger tumours were soft, conveying to the touch the sensation of indistinct fluctuation. The smaller ones were firmer and more resistant. On section, the substance was soft, greyish-white in colour, interspersed with reddish streaks. In the smaller growths the cut surface was consistent, and looked more like the natural gland tissue.

Histological Examination.—Blood taken from the splenic and jugular veins did not show such a marked increase in the number of colourless corpuscles as to constitute leukæmia. *Spleen* : The only points of special note were the number of small lymphoid, colourless corpuscles, and the abundance of large round bodies containing either red blood corpuscles, diffused colouring matter or yellowish granular pigment. I have never seen these struc-

tures so numerous as in this specimen—from four to six could be seen in each field of the No. 9, im. (Hartnack). The enlarged *retro-peritoneal glands* consisted of the following elements: (1) Lymphoid corpuscles, very abundant; (2) colourless cells, like white blood corpuscles, about double the size of the lymph cells and with a more granular protoplasm; (3) giant cells; (4) fibre cells of connective tissue. *Heart muscle* was very fatty. Only the marrow of a rib could be secured for examination, and it presented the usual characters of this tissue, but the corpuscles containing red-blood were very numerous.

CASE II.—*Lymphadenoma of the Cervical, Axillary and Thoracic Glands—Large Mediastinal Tumour—Right Hydrothorax—Progressive Anæmia.*

James K., æt. 20, a patient of Dr. Sherman's of Morrisburg, Ont., who brought him to Montreal for examination on June 30th, 1880.

Family history—Parents alive; has brothers and sisters; he is himself a twin; no history of scrofula or other hereditary disease in the family, the members of which appear healthy and well nourished. Father and sons are very hard-working farmers.

Previous history—Has been a healthy lad; never any special illness. Has been a very hard worker.

Present illness—In November, 1879, he caught cold, had a severe chill, and pain in the right side. Did not lay up or have a doctor, but felt unwell for several weeks. About Christmas he noticed the glands on the left side of the neck to be enlarged. There was at the same time swelling of the thyroid. A slight prominence of the upper part of the sternum was noticed in January, and shortly after the glands in the right axilla began to enlarge. About a month ago the left axillary glands became swollen. Under treatment (iron and cod liver oil) the cervical glands diminished in size, and the enlargement of the thyroid disappeared. He has lost flesh, not much since March, and has become pale and short of breath.

Present condition.—Patient is an average-sized young man, fairly well nourished; eyes blue; complexion muddy, particularly

on lower part of the face ; is anæmic, and complains of muscular weakness. Appetite is good ; bowels regular ; tongue moist, indented with the teeth. Pulse 128 ; respirations 55.

On inspection, left cervical glands greatly enlarged, forming a continuous tumour from behind the ear to the clavicle, occupying both anterior and posterior triangles. The individual glands in the collection can be felt, are moveable beneath the skin, of elastic feel, and not painful. On the right side there is no evident enlargement, but the glands can be felt with unusual distinctness, and just above the clavicle they are decidedly enlarged. In right axilla, just within the axillary fold, there is a tumour the size of a couple of billiard balls, and in the left axilla a smaller one ; both are freely moveable, of moderate consistence, and not painful. The inguinal glands are not enlarged.

In front of the chest there is marked bulging of the upper two-thirds of the sternum and corresponding costal cartilages, forming a somewhat flattened tumour, extending from root of neck to level with the nipples, and about six inches in breadth. Its point of greatest prominence is opposite the 2nd rib. The skin over it is natural looking ; there are a few dilated venules. There is no pulsation ; it is painful on pressure, and pits slightly. The glands are enlarged in the epi-sternal pit, and just over the right sterno-clavicular joint are two glands, to which the skin is firmly adherent. In respiration the left side of chest moves more freely than the right, and the intercostal spaces are obliterated in the latter. On mensuration, right, 18 inches ; left, 17 $\frac{1}{2}$ inches. Apex beat visible 1 $\frac{3}{4}$ inches below and 1 inch to the outer side of the left nipple. On percussion, absolute dullness over swelling in front of the chest, extending on the left side as far as the nipple line. Outer part of left infra-clavicular and mammary regions presents a clear note ; same on posterior regions of this side. Right side is uniformly dull, except a finger's-breadth beneath the clavicle and in the supra-spinous and upper part of outer scapular regions behind. Tactile fremitus absent over dull areas. On auscultation, breath sounds exaggerated and harsh on left side ; tubular at upper part of right lung in front and behind, abolished at base on this side.

Heart is depressed, dulness merges with that of the sternal tumour; impulse forcible; sounds clear.

Abdomen looks full; superficial veins distended; when he stands up they become very marked, are coiled, and in places varicose. Sense of increased resistance in region of navel, but no definite tumour can be felt.

Liver extends two fingers-breadth below costal border, and in sternal line reaches to the navel. It is depressed, not enlarged.

Spleen not increased in size.

Urine is amber-coloured; sp. gr. 1023. No albumen. There is no tenderness over any of the bones.

Blood thin, claret-coloured. Red corpuscles tolerably uniform in size, with regular outlines; a few small ones noticed. White corpuscles appear a little more numerous than normal; no special alteration in size or appearance. No nucleated red corpuscles. With Gowers' hæmacytometer, number of red per cubic millimetre about 2,100,000, = 42 per cent. Proportion of white to red corpuscles, 1 to 180. Percentage of hæmoglobin with Gowers' hæmachrometer, 46.

Diagnosis—Hodgkin's disease (lymphadenoma), with pleuritic effusion on right side.

The young man returned home, and the further history of the case, as gathered from Dr. Sherman, is as follows:—About the middle of July the fluid was drawn off from the right side, 14 pints, straw coloured. This relieved him considerably, and he was able to breathe quite freely. The sternal tumour had increased in size and became inflamed. On July 26th Dr. Sherman opened it at the lower part, and about half a pint of ill-conditioned, bloody, pus escaped. Appetite keeps good. On Aug. 9th the lad's father reported that the breathing had again become difficult, and dropsy was beginning in the legs. Death took place on Aug. 20th, rather suddenly, as he had been walking about the barn-yard the same day.

Autopsy, about 40 hours after death, in the presence of, and assisted by, Drs. Sherman and C. E. Hickey of Morrisburg, Dr. Wagner of Dickinson's Landing, Dr. S. Hickey of Aultsville, and Dr. Blackstock of Chesterville.—Decomposition had set

in ; face swollen, skin discoloured and crepitant to the touch. Swelling in front of the chest had increased in size, and at the lower part, the incision above referred to was seen. Cervical and axillary tumours about the same size. On making the preliminary incision, a quantity of soft greyish material escaped from the tumour over the sternum. When cut into, substance soft and pulpy, with harder masses scattered through it. To a level with the 4th rib the sternum was destroyed, only a small bit uniting the clavicles above. The cartilages of the 2nd and 3rd ribs were also eaten away, and on the right side there was erosion of the bony parts as well. There was slight infiltration beneath the pectoral muscles, but the growth was not continuous with that in the axillæ. On fully exposing the cavity of the thorax, the entire anterior mediastinum was filled up with soft greyish white masses, lying upon the aorta and pericardium, and extending into the neck. A large rounded mass, firmer than the rest, occupied the position of the right auricle and pushed the heart to the left. Several isolated tumours were attached to the diaphragm. The antero-lateral part of right lung was closely united to the tumour ; on the left side the lung was free, but the growth projected in nodular masses into the pleural cavity beyond the costal cartilages. About four pints of blood-stained serum in right pleura. Entire mass removed with lungs and heart. On dissection from behind, aorta not compressed, though the arch was surrounded by irregular masses. Oesophagus presented one or two enlarged glands attached to its lower third. On slitting up the trachea and bronchi, former not compressed, right bronchus free, left somewhat narrowed, a conglomerate mass of enlarged glands surrounded the trachea from the root of the neck to the bifurcation, and passed out the bronchi, particularly the left, and were imbedded in the lung substance. Immediately below the fork of the bronchi was a group of large glands, somewhat firmer than the others.

Heart transversely placed and pushed down ; chambers and valves normal ; arch of aorta crossed at level of 3rd intercostal space.

Lungs—Right collapsed, only the extreme apex crepitated.

Throughout the lower and middle lobes were numerous greyish-white masses, varying in size from a cherry to a walnut. They were very abundant in the fissure between the lower and middle lobes. The left lung was œdematous, otherwise healthy. The enlarged glands at the root penetrated into the substance, but not to the same extent as in the other lung.

Spleen 15 cm. in length, pulp soft, uniform; no nodular masses.

Kidneys presented nothing abnormal.

Liver pale, not enlarged. Nothing special was noticed in stomach or intestines. Peyer's glands not enlarged.

Lymphatic Glands.—The *cervical*, on the left side, formed a large tumour made up of a chain of glands extending from the sternum to the back of the ear. They occupied both triangles of the neck, and the sterno-mastoid muscle was stretched over them. The enlarged glands were closely adherent, about the size of walnuts, and tolerably firm. Many of the smaller ones could be enucleated. On the right side, only the lower cervical glands, just above the clavicle, were affected. The *axillary* glands were much enlarged, forming large bunches, composed of closely packed glandular masses, the individual elements of which were with difficulty separated. *Mesenteric* glands of normal size. *Retro-peritoneal* glands enlarged to the size of horse beans, and firm. One or two in the hilus of liver, also enlarged. *Inguinal* glands not affected. Owing to decomposition, the glands were doubtless softer than during life. On section, they had a greyish colour and a soft cerebriform appearance; a considerable quantity of juice was obtained on scraping the cut surface. Some of the glands were firmer, and had strands of firmer tissue passing through the substance. One or two of the masses in anterior mediastinum presented in spots a caseous appearance. The decomposed state of the glands did not allow of a very satisfactory microscopical examination of their tissue, when recent, but hardened specimens showed, on section, closely packed lymphoid cells with a variable amount of fibrous stroma. In several portions of the mediastinal mass the crowded elements had undergone caseous degeneration.

CASE III.—*Lymphadenoma of the Cervical, Axillary and Mediastinal Glands—Progressive Anæmia.*

T. B., aged 20, a machinist, was admitted to Hospital Nov. 20th, 1880. Parents living and healthy. Has four brothers and sisters. He is a twin. There is no consumption in the family, nor have any of the members suffered from glandular enlargements. Had typhoid fever three years ago; does not think he has ever been so strong since. About the middle of last February the glands on the left side of the neck became enlarged, and shortly after those of the left axilla; the latter increased rapidly in size, and got painful. He has lost flesh, and has become pale and weak. Has had a cough for some time.

Oct. 25th.—At this date the patient was sent for examination by Dr. Rodger, of Point St. Charles, under whose care he has been. Appearance that of a pale, thin young man; long face, eyes blue; head elongated in anterior and posterior diameter; forehead narrow, but very prominent. In left cervical region glands in anterior and posterior triangles enlarged, the size of large almonds, and forming a conspicuous swelling. There is an enlarged gland placed directly over middle of left sterno-mastoid muscle. On the right side there is a single large gland in subclavian triangle; the others are scarcely perceptible. In left axilla there is a bunch the size of a small fist, situated anteriorly, beneath the pectoral fold. The separate glands can be distinctly felt, and they are elastic, moveable, and not painful. Right axillary glands were sore at one time, and a little swollen, but are now of normal size. Inguinal glands not enlarged. On inspection of chest, a decided prominence is noticed on left side, over cardiac area, extending beneath third, fourth and fifth ribs, as far out as the nipple line to the left, and to the middle of sternum on the other side. The swelling occupies an area about the size of the palm of the hand. Percussion gives a dull note over the swelling, as high as the second space above, and merging below with the cardiac and hepatic dullness. To the right its limit is about the mid-sternal line; to the left, the nipple line. Over the rest of the chest the percussion is normal. No special alterations in breath sounds.

Splenic dulness not apparently increased. Liver normal. Appetite good. Blood not leukæmic; proportion of colourless corpuscles not ascertained. Weight, 131 lbs.; in May was 141.

Nov. 21st.—Present condition. Has been at home since last note, in much the same condition, but is now somewhat weaker, and has lost five pounds in weight. Glands in left cervical region have diminished much in size, the enlargement being now hardly visible on cursory examination. On palpation, however, they can be felt, slightly enlarged, hard, and freely moveable. There is one the size of a small walnut, lying directly upon the centre of the sterno-mastoid muscle; on the right side, there is one in the anterior cervical region, and a couple of small glands over the mastoid process of the temporal bone. The right lobe of the thyroid seems a little larger than the left. In left axilla the bunch of glands formerly described maintains about the same size. He thinks they have been larger, and they have been painful (since last examination.) The individual glands are not distinctly perceptible. The skin over them is not adherent, the whole bunch being freely moveable. Inguinal glands just perceptible.

Thorax and Abdomen.—*Inspection.*—There is a prominence, as formerly noted, in the left mammary region, extending from about the second to the sixth rib, and laterally from the left border of the sternum to the left border of the nipple, and is most prominent in the transverse nipple line.

Percussion.—On the left side there is dulness, from the second rib in the para-sternal line, which is continuous with that of the heart. To the left, the dulness extends for half an inch outside the nipple line. To the right, it extends nearly to the right border of the sternum. Over the upper bone of the sternum, the note, though not absolutely dull, is deficient in clearness. A clear note is obtained over the clavicle, the infra-clavicular, axillary, and posterior regions of the left side, and over the entire right chest. Apex beat can neither be seen nor felt.

Auscultation.—At apices, in front breath sounds appear somewhat weaker on the left side; behind, scarcely any notice-

able difference. No special difference in breath sounds elsewhere behind.

Liver.—Dulness from lower border of sixth rib, and does not extend below costal margin.

Spleen.—Cannot be felt on palpation. Vertical line of splenic dulness is about three inches. Nothing special on palpation of abdomen.

Heart sounds clear. Region of greatest intensity, just below and a little to the left of the nipple.

Appetite very fair. Bowels regular. *Urine*, no albumen, no sugar. About three weeks ago his voice suddenly became harsh and husky.

Nov. 25th.—Blood examined to-day. Drop of a good colour, not hydræmic. Red corpuscles run together into irregular clumps, and do not form natural rouleaux. They appear of tolerably uniform size, no very small ones are seen. One or two have an irregular outline. Colourless corpuscles are increased to a moderate degree, and many appear smaller than usual, otherwise they have a natural appearance. Schultze's granule masses very abundant. Fibrin fibrils form an unusually dense and clearly defined network. Hæmoglobin (with Gower's apparatus), 48 per cent.

Nov. 27th.—Complains of an aching pain in chest, with a focus in mid-sternum, which came on last evening. It is easier to-day.

Nov. 29th.—For three nights the pain has recurred with increasing severity, and last night interfered with sleep. No change otherwise.

Dec. 2nd.—For three days his evening temperature has been up to 102° . Morning temperature, nearly 101° . Is looking considerably paler than when he came in. No change in neck. Tumor in anterior thoracic region looks fuller, slightly flushed, and œdematous. To-day pain is less over the sternum. No change in axillary tumours.

Blood drop of a good colour. White corpuscles seem in greater abundance. Granule masses large and plentiful. Red cor-

pules per cubic millimetre, 3,550,000. The ratio of white to red is 1 : 185:2. Allowed to go out for exercise.

Dec. 7th.—Left the hospital for his home in the country.

The treatment advised by Drs. Howard and Rodger, of Liq. Arsenicalis and cod liver oil, with nourishing diet, was continued during his residence.

THE RUBBER SYRINGE AS A STOMACH PUMP IN CASES OF ACUTE POISONING.

By J. A. GRANT, M.D., M.R.C.P., LOND., &c., Consulting Surgeon, General Hospital.

(Read before the Ottawa Medico-Chirurgical Society.)

On January 19th, 1881, was suddenly summoned to the residence of Mr. M., on account of his son, aged 6 years, having accidentally swallowed a quantity of carbolic acid bug poison. Saw the child about ten minutes after the poison had been taken, and found him cold, with feeble pulsation and the breathing almost suspended, the only indications being an indistinct mucocrepitant râle about the upper part of chest and throat. Without delay the right fore-finger was inserted into the throat and the epiglottis elevated, which seemed spasmodically closed. Air rapidly rushed into the lung tissue, and suddenly greater evidences of existing vitality developed than previously anticipated. After pouring a quantity of oil down the throat, I endeavoured to use the stomach pump, and then discovered for the first time that the instrument was broken. Having no better appliance at hand, I inserted the long tube of an ordinary india-rubber injection pipe into the stomach quite easily, and pumped in a quantity of water, which I hoped to remove by leaving only the tube *in situ* and changing the position of the child. Such, however, was unnecessary, as after the tube was detached from the body or central part of the instrument the fluid from the stomach rushed out at a bound through the tube, and thus the contents of the stomach were rapidly and unexpectedly removed. This washing out process was repeated three times in the space of a few minutes, after which the ejected fluid gave no particular indications of carbolic acid. After being two hours

in charge of the case, Dr. Bentley kindly assisted, and administered freely milk and lime water, which for several hours was swallowed with considerable difficulty. The return of sensibility was slow but gradual, and for fully five hours the body temperature was low, pupils moderately contracted, skin pale, and the lips, chin and mucous membrane of the mouth presented quite an excoriated appearance, from the direct effects of the carbolic acid, all of which was much benefited by the free application of olive oil.

On the third day from the date of accident the child appeared as well as could possibly be expected under the circumstances, and only at times complaining of a sense of gastric discomfort, and more or less irritability of temper, all of which had almost entirely subsided within the first week. As is well known, the employment of an ordinary stomach pump requires care, in order to avoid injury to the soft parts from the ivory end of the tube. Several such records of injury are published. The application of the ordinary india-rubber syringe is, however, superior to any other appliance in such cases—first, from its great simplicity; second, from the ease of application; and third, from the fact that when the body of the instrument is detached, the ordinary contraction of the stomach, diaphragm and the abdominal muscles will expel the contents of the stomach freely, without any effort being made to pump out the fluid in the usual way. Thus it appears that the contact of the tube with the gastric walls excites reflex expulsion, like the tickling of the throat with the finger or a feather in order to induce emesis. Thus we have at our disposal an inexpensive, simple and practical means of removing poisonous substances from the stomach, and with a degree of rapidity vastly superior to any other appliance heretofore recommended under such trying circumstances. From an examination of the ejected fluid, the quantity of carbolic acid taken was about a tablespoonful, the ill effect of which on the gastric mucous membrane was considerably modified from the fact that the stomach contained several ounces of fluid at the time of the accident.

The toxic effects of carbolic acid, so far known, have been best

counteracted by the free use of diluents. As an evidence of the muscular contractile power of the stomach when subjected to local irritation, we have the experiments of Dr. Bidder and Schmidt on the gastric fistulæ of dogs: "On inserting the finger into the hole, it was felt to be squeezed, and the solid aliments introduced into the organ by the opening were carried forward in the usual manner." (Chambers on Digestion, p. 39.) In morbid affections of the stomach traceable to nervous influence, defective muscular power, or even changes in the media of solution, the insertion of a small elastic india-rubber tube into the stomach, in any case of doubt, would readily afford an opportunity of examining the peculiarities of the fluid contents, and thus aid considerably as to diagnostic accuracy. In cases of dilatation of the stomach, independently of pyloric obstruction, Dr. Kussmaul, of Freiburg (Reynolds' Med., vol. 3, p. 126,) proposes to evacuate the stomach by means of the stomach pump, particularly when vomiting has commenced, as an evidence of over-accumulation of food. In order to neutralize the acid mucus still charged with the products of fermentation, he has washed out with Vichy water, and is of opinion other remedies can thus be applied with a similar object in view. Gastric tube treatment will be greatly facilitated by the simple appliance proposed, whether in cases of poisoning or ordinary gastric disease.

SURGICAL CASES (STRICTURE, NECROSIS, ULCER OF RECTUM, &c.)

By G. CUTHBERTSON DUNCAN, M.D. (McGILL), L.R.C.P., EDIN.,
B. Sc., PARIS, &c.

Communicated to the Medico-Chirurgical Society of Montreal.

Trusting that a few remarks from this great centre of the surgical world may be of interest, I take the liberty to give you a short account of some few cases which have occurred in my practice during the past two years, both here and in London. The many improvements lately made and proposed in surgery render it of great practical importance to the surgeon to be cognizant of every available means to treat the many

forms of disease to which the human frame is liable ; yet, with all at present known, he is often powerless, sometimes from unexplained causes. If I might be allowed time, I would try and discuss the merits of some of the modern improvements, or I might say innovations, but will content myself for the present by alluding in a cursory manner to some cases of special interest to me, most of which were attended with good results. The first three were of peculiar interest to me from two points of view : firstly, because they had all been operated on by various methods previously, by distinguished men, and secondly, because good results were obtained by a line of treatment not generally employed.

No. I., aged 28, had contracted a severe urethritis, which lasted three months, treated by injections, which left behind considerable narrowing of the canal. He was operated on by internal urethrotomy, but had a return in three months, when he was treated by *gradual dilatation*, by which means he never succeeded beyond passing a No. 6 bougie (English scale.) I saw him after a year's treatment by this method, and found considerable thickening of the lining membrane of the canal, and deeply seated about the membranous portion were thickened masses, varying in size from a flattened pea to that of a good-sized bean. There was a history eight years previously of syphilis, with but slight traces left. I commenced to treat this case by *continuous dilatation*, allowing three days to intervene between each increase in size, beginning with a No. 2 and reaching No. 6, but beyond this I could not go without using considerable force. At first a very copious muco-purulent discharge was the result. Suspecting that syphilis might be the probable cause of the want of success on former occasions, I put him on a mixture of the biniodide of mercury and iodide of potash, and in three weeks I could insert a No. 12 with ease, and no trace of the nodules in his perineum, although the lining of the canal remained considerably thickened. *Eighteen* months have now elapsed, and no diminution in size, and great gain in flesh.

No. II., aged 32, had contracted gonorrhoea three years

previously, followed by considerable stricture situated in the membranous portion of the urethra, and had been treated by *gradual* dilatation at irregular intervals ever since. Upon examination I found considerable thickening in the submucous tissue, and three or more firm resilient bands in the membranous portion. I commenced by passing a No. 2 gum elastic catheter, which I tied in. After twelve (12) hours I was obliged to desist, as he had a severe rigor, followed by a temperature of 101° , which subsided on the withdrawal of the instrument. Three days after this I could pass with ease a No. 3, and at intervals I increased the size until I reached No. 8, when there was a standstill, and upon attempting to dilate with conical bougies the pain was so great, and followed by rapid rise in temperature, that I had decided on performing internal urethrotomy, when I thought of examining him for syphilis, when I found considerable induration of both the cervical and inguinal glands and the remains of a hard chancre, although he denied any knowledge of it. Commencing a course of mercury and the iodide of potash, I again attempted to dilate his urethra, and succeeded in five weeks in being able to pass a No. 11. Fourteen months have elapsed, and his condition remains the same.

No. III., aged 60, with a somewhat variable history. He attributed his trouble to an injury from the pommel of a saddle, but as he had contracted syphilis some twenty years ago, and gonorrhoea on several occasions, I gave due credence to this as a cause. He had been treated by the late Sir Benjamin Brodie for stricture on different occasions, by various means, and by others of a later date, and when he presented himself he had a narrow tortuous passage through the membranous portion of his urethra, and the whole of the perineum indurated with irregular masses, some the size of a pigeon's egg, adherent to the urethra itself. The symptoms accompanying this, both past and present, pointed clearly to false passages, infiltration of urine and perineal abscess. With much difficulty, I succeeded in passing a No. 1 gum elastic catheter, which I allowed to remain for seventy-six (76) hours. By this method, at the

end of fifteen days I could pass a No. 7, when the discharge, which was very copious at first, had almost ceased. At this stage I commenced mercury, combined with the iodide of potash, when there began a gradual decrease in the size of the masses of lymph, until at the end of six weeks only traces of them remained. During the latter part of the treatment I used gradual dilatation, with conical steel bougies, until I could pass a No. 13. During the past year he has himself passed a No. 12 every month, and at present there is no change.

These cases were of interest to me from the possibility of syphilis being the cause of the tendency to relapse, and I think it is a fact too often overlooked in the treatment of stricture of the urethra, especially as the origin of both diseases is generally from the same source; and when one thinks of the many instances in which syphilis is the cause of stricture in this passage of the body, it does not seem improbable to me that it might play an important part in the formation of stricture of the urethra, even without gonorrhœa accompanying it. I think Mr. Reginald Harrison, of Liverpool, was the first to combine antisyphilitic treatment with the mechanical for the treatment of stricture in such suspicious or intractable cases. I am convinced that without the medicinal treatment in these three cases I would not have obtained the same results, but whether from its antisyphilitic or its absorbent properties I am not prepared to say.

No. IV. was a little girl aged 5 years. In April, 1879, she contracted a fever, probably typhus, ushered in with bronchial complications, but was convalescent by the end of May, when an abscess appeared on the right arm, a little below the shoulder on the outer side, accompanied by severe constitutional disturbance and pneumonia of the right lung, and all the symptoms of pyæmia. As soon as pus formed it was evacuated, under antiseptic precautions, and a drainage tube inserted. Shortly after this, another made its appearance on the lower side, near the elbow joint, which was treated in a similar manner. After this the child made a slow recovery, and although a heavy discharge followed for some time, no sequestra or opening into the bone could be detected, but a large portion of the surface of the

bone was completely denuded of its periosteum. Looking upon it as a case of suppurative periostitis, and deeming surgical interference unadvisable in her low condition, I decided to wait. She made a good recovery from her lung difficulty, and went to South Wales during the months of August and September. During her stay she gained rapidly in flesh, and returned to London, when a small opening communicating with the interior of the bone at both openings, and a small sequestrum $\frac{1}{2}$ of an inch in length, made its appearance. The size of each of these openings would scarcely admit the end of an ordinary silver probe. Upon consultation with Mr. Thos. Smith, it was decided to operate, and on the 28th of September the bone was broken open, and found at both openings a mere shell, and extending upwards to the head of the humerus, leaving only a thin partition between the probe and the joint, and a similar condition at the lower end, but to a less degree. There never was any roughening of the articular surfaces. Both cavities were thoroughly scraped out, and filled with strips of lint soaked in carbolic oil. There was considerable discharge following this, but it soon ceased, and considerable new bone thrown out, especially at the lower end, and the flesh was rapidly closing around the openings. The parents went to Paris about the beginning of November, when the discharge commenced again, with roughening of the inner surfaces. I arrived in Paris on the 7th, and operated on the 11th. Dr. MacGavin kindly giving chloroform, I removed the whole of the inner structure of the epiphysis and part of the shaft extending upwards about three (3) inches, and scraped out the upper cavity, where new bone was rapidly forming on one side, but on the lower and inner side the whole of the old shaft was spongy, which I removed. The new bone acting as a splint, I decided to leave the central part of the shaft, as it presented a healthy appearance, and acted as a support. The same treatment was adopted as on the previous occasion. Rapid progress was made until the beginning of January, when slight roughening and some discharge appeared. I again cut in, and scraped all roughened surfaces, which were all in the centre of the bone, and appeared

to be the remains of the old bone partially surrounded by a new formation. Again on the 13th April, as the discharge returned, Dr. Stigi, of Mentone, giving chloroform, I opened the middle portion and broke away the remains of the old shaft. The wound healing rapidly, but kept open with a drainage tube through the centre of the bone from the upper to the lower opening, afterwards replaced by a strand of ligature silk, which was removed at the end of May, and immediate closure followed its withdrawal. For some few weeks there was considerable thickening of the lower end of the humerus, which interfered with the full flexion of the forearm, but has entirely disappeared, and now the parents write me that there is no difference between each arm, and the only trace left is two small scars, which are rapidly contracting.

No. V., aged 26, consulted me in Paris last December for ulceration of the rectum, with hæmorrhoidal masses protruding, and accompanied by profuse hæmorrhage. He had been treated by all kinds of astringent injections and suppositories. Upon examination I found the lower three inches in the condition already described, and upon consultation with Dr. MacGavin, I decided to remove all the carunculated masses with the thermo-cautery, and to sear all the ulcerated surfaces, which was done on the 20th of December last year, Dr. MacGavin kindly giving chloroform, and assisted by Mr. W. F. Cooke. After removing the lower part of the bowel, I could feel a deeply seated mass on the left side, and a small hole communicating with it. Tearing this sac open with the finger, I found and dislodged a hardened mass, the size of a good-sized almond, which afterwards proved to be the remains of a suppository containing belladonna leaves. The date of the last suppository used was four months previous. After searing the abraded surfaces, I kept him on opium and milk diet for several days. The temperature never exceeded 100.6° . He progressed favorably for about a month, losing but little blood, and little or no pain, but several masses of a leathery texture rapidly formed, external to the sphincter. There still remained several ulcerated patches, which were cauterized from time to time with

nitric acid, under which they would disappear, but would be replaced by others, and two months after an abscess opened at the external edge of the sphincter, with *no* internal opening. I slit up the sac on a director, and removed several small masses, Dr. Battersby, of Cannes, giving chloroform, and kindly assisted by Dr. Morris, of Stamford Hill, London. During the next few months there was very slow progress, during which time both nitric acid and the nitrate of silver were applied. During the following summer he consulted Mr. Allingham, under whose treatment he has continued until the present time, and I have at hand a letter of the 24th instant, in which he tells me that he would be quite well for a month or so, and then a return. But three weeks previous to writing, he says, he had his rectum cut down, by which, I suppose, he means that the sphincter was divided, and was progressing favorably. The closest examination in this case failed to elicit any specific cause, nor can I attribute any reason why there should be a return of his trouble after a comparative recovery. I used in this case, as in the following one, a speculum of my own device, consisting of two blades, which can be separated at both ends to any extent, thus giving the operator more freedom in the manipulation of instruments, as well as his fingers.

No. VI., aged 28, whom Dr. MacGavin kindly asked me to examine with him, in which the symptoms were somewhat obscure. His principal trouble was a severe pain of a transitory character, but especially severe, in the umbilical region and in the position of his rectum. Upon examining his rectum, a few swollen masses and fissures were found, with severe tension of the sphincter. Thinking this to be a sufficient cause, I removed the small tumors with the thermo-cautery, and seared the fissures. At Dr. MacGavin's suggestion, I stretched, by forcible means, the sphincter, after which the pain disappeared, and he left for Ireland in 12 days, completely recovered.

In this case there was great difficulty in getting him under the influence of chloroform, I think from the fact of having commenced to operate too soon, a difficulty I have experienced on other occasions under similar circumstances, most probably from reaction through the sympathetic system.

RAPID DILATATION OF THE FEMALE URETHRA FOR THE CURE OF CYSTITIS.

By WM. GARDNER, M.D.

Prof. Medical Jurisprudence and Hygiene, McGill University; Attending
Physician University Dispensary for Diseases of Women, &c.

[Read before the Medico-Chirurgical Society of Montreal.]

Chronic cystitis is, it will be admitted on all hands, a most distressing, painful, tedious and debilitating disease. Its internal treatment by drugs, and its local treatment by injections, are almost always tedious, often unsatisfactory, and not rarely altogether unsuccessful. The following case, successfully treated by a surgical procedure, as yet *sub judice*, is offered as a contribution to the literature of the subject:—

Mrs. B., æt. 24, married three years, the mother of one child six months old, born at full time, after a moderately difficult labor, from which, however, her "getting up" was not of the best, consulted me at the University Dispensary for Women on the 6th December, 1879. On inquiry it appeared that ever since the birth of her child she had suffered from pain in the loins and right iliac region. The bladder symptoms came on two or three months after her confinement, and consisted of frequent and painful micturition; the pain was both before and after the act. She was obliged to be up to pass water, on an average, three times each night. During the day it was more frequent. The urine contained blood and pus in marked quantities. She was suckling her child, but was also menstruating regularly and copiously every four weeks, the flow containing clots, and often lasting eight days. She was markedly anæmic, complained of weakness, loss of appetite and habitual constipation. Inspection of the external genitals showed vulvitis and vaginitis, with erosions of the urethral orifice. Marked tenderness of the base of the bladder as felt through the vagina. On sounding, no evidence of calculus. Uterus healthy and in normal position. Copious vaginal injections of hot water twice a day, the application of glycerine of tannin to the vagina by cotton wool pledgets, and internally large doses of bicarbonate

of potash, with tincture of hyoscyamus in camphor water, were ordered. Under this treatment she seemed to improve for two or three weeks, but speedily relapsed. She was then given small doses of tincture of cantharides, but this seemed to make her worse. Her next prescription was hyoscyamus and extract of buchu. This did no good. On the 15th January, vesical injections of a 2 per cent. solution of carbolic acid were commenced, and continued for some weeks, being alternated with weak nitric acid. This treatment did no good. It is true they were not used more than three times a week, but as it was inconvenient to use them more frequently, and as after two months' perseverance in the treatment there was no improvement, I resolved at once to dilate the urethra. The patient was ordered to wean her child, and a week later the operation was performed, with a diagnostic as well as curative object, as I could not certainly otherwise exclude some hidden cause for the symptoms. After etherization, Ellinger's uterine dilator was passed into the urethra, and the blades gently and gradually separated by intermittent efforts. After moderate dilatation by these means, gradually increasing sizes of rectal bougies were passed in, till in ten minutes from the commencement of the process I was able to coax in my index finger. A thorough exploration of the urethra and bladder failed to detect any morbid condition of either, other than some roughness of the mucous membrane of the base of the latter. The existence of fissure of the neck of the bladder, which I thought of as being a possible cause of the symptoms, was not discovered, but this was scarcely to be expected, even if it were present, after the amount of dilatation described. There was slight rupture of the orifice of the urethra in the usual situation, the upper or pubic wall. The patient complained of some soreness during micturition, and the blood and pus in the urine persisted for a few days, but the severe spasmodic pain and frequency of micturition were absent from the moment of the operation. Subsequent treatment consisted of milk diet, regulation of the bowels, ammonio-citrate of iron internally, and locally continuance of the hot water vaginal injection. On one occasion only, three

or four days after the operation, was there slight incontinence—a little gush of urine escaped when the patient stood up. She steadily improved. A month after, the bladder symptoms were completely cured, save that a faint cloud of mucus still existed in the urine. Anæmia disappearing; appetite and strength rapidly returning. Four months afterwards considered herself perfectly cured of the bladder symptoms.

I do not, of course, pretend to advance the treatment here adopted as original, but it is certainly comparatively new. It is true that dilatation of the female urethra was practised three or four centuries ago, but these early operations were for the extraction of calculi and foreign bodies. Benevieni and Marianus Sanctus recommended and described the operation at the beginning of the 16th century. In later times, Solinger, in 1698, and Douglas and Bertrandini, in 1769, performed the operation gradually by tents made of the roots of plants, or by sponge covered with parchment. Bromfield employed the *processus vermiformis* of a small animal. He introduced the bit of intestine into the urethra, and then distended it with water. Instrumental dilatation was contrived as long ago as 1556, by Peter Franco, and described by him in a treatise, "De la Cure de la Pierre aux Femmes," published at Lyons in 1561. Franco's instrument resembled an ear speculum. Other Italian surgeons, Fabricus Hildanus, in 1628, and Mazotti, of Florence, in 1770, employed metallic urethral dilators with expanding blades. Sir Astley Cooper also devised a metallic expanding dilator. It may be said of all such instruments, that when used to dilate the urethra to the extent necessary to introduce the finger, they are apt to lacerate the passage at its external orifice. They are only to be recommended for the preliminary step of the dilatation. Modern impetus to the employment of the operation was chiefly given by the late lamented, much gifted Gustav Simon, of Heidelberg, who gave explicit instructions for its performance by a set of dilators which he invented for the purpose. Winckel, of Dresden, author of the section on Diseases of the Female Urethra and Bladder, in Billroth's "Handbuch der Frauenkrankheiten," is also a strong advo-

cate for the operation, and corroborates all that Simon claimed for it in the way of curative results and innocuousness.

In America, Noeggerath, Mundé and others, of New York, and Goodell, of Philadelphia, strongly advocate and frequently practise it. Mr. Christopher Heath, of London, has also published favourable accounts of its employment. The principal opponent to the operation at the present time is probably Dr. Emmet, of New York, whose opinion on all such matters must be respected from his probably unparalleled gynecological experience. In the course of a discussion on the subject at a meeting of the New York Obstetrical Society, in March, 1878, he remarked that he had seen at least half a dozen cases of incontinence follow the operation performed by other surgeons, and that in eleven cases by himself, two had permanent incontinence, and that, moreover, he knew of no benefit from the procedure in chronic cystitis. On the other hand, Dr. Noeggerath, at the same meeting, reported that he had performed the operation seventy-five times, with incontinence lasting longer than four weeks, in only two cases. A feasible explanation of the discrepancy in results obtained by these two operators has been suggested by a recent reviewer of the second edition of Dr. Emmet's book—that it is because the index finger of the latter is at least one-third larger than that of Noeggerath. A careful examination of the experience of a considerable number of operators would seem to show that the operation is free from danger of subsequent permanent incontinence of urine, if the urethral tissues be fairly healthy, and if the dilatation be not carried to an extent greater than is necessary for exploration by an index finger of medium size, say three-quarters of an inch; and, moreover, that the majority of the cases of incontinence have followed dilatation for the removal of large calculi, which undoubtedly in the present state of surgical experience ought always to be removed by vesico-vaginal incision.

Hospital Reports.

MEDICAL AND SURGICAL CASES OCCURRING IN THE PRACTICE OF THE
MONTREAL GENERAL HOSPITAL.

MEDICAL CASES UNDER CARE OF DR. ROSS.

Two Cases of Lead Poisoning.—Reported by Mr. J. W. Ross.

CASE I.—H. V., æt. 33, a strong, well-nourished Belgian, employed in the nail factory of Messrs. Peck & Benny, sought admission into the hospital on the 28th November, at that time suffering from general weakness, inability to do his work, loss of appetite, bitter taste in mouth, soreness of gums, profuse ptyalism, pain of a burning and colicky character in epigastrium, scalding on micturition, and pain extending down spermatic cords into testicles. Has always been a very healthy man, never having lost a day's work through sickness before. Habits good. About fourteen days previous to admission he began to lose his appetite and suffer from dizzy sensations in head; gums became sore and tender, and salivation commenced, and two or three days after, began to suffer from violent colicky pains in upper abdominal region, attended with a constipated state of the bowels, which after a while became relieved by use of salines.

On admission into hospital, there appeared signs of considerable emaciation; muscles soft and flabby; skin presents a sallow, muddy appearance. and conjunctivæ are distinctly yellow; marked retraction of abdomen. Expression of face is anxious, and indicative of great suffering; tongue furred; brown incrustation on teeth; gums very tender, and characteristic "lead line" very well marked; profuse clear, watery salivation. Cerebral functions are intact; no perverted sensations. Considerable wasting of muscles, and power somewhat impaired, but no tendency towards palsy. No pains in bones of rheumatic character. Nothing special about lungs, heart or glandular organs. Urine high colored, and of high specific gravity; deposits lithates; no albumen. Very marked constipation.

The treatment adopted was such as to secure free action of the bowels by means of magnes. sulph. in form of white draught, and by enemata of castor oil; poultices applied over the abdo-

men, changed every two hours, and the occasional use of morphia hypodermically, $\frac{1}{8}$ grain. The constipation was relieved for a time, and the pain and colic disappeared, but after a couple of days returned as severely as before. There was also now, as on the second day after admission, very considerable vomiting of a greenish bilious fluid, with quantities of curdled milk. The obstinate constipation which followed again gave way on administration of the salines, and the colic has also disappeared, and the patient expresses himself as being almost cured (Dec. 9th.) His appetite is also improving, and he finds himself rapidly regaining strength. Lead line on gums has diminished considerably, but is still well marked. Skin is of a more natural color, and the conjunctivæ are losing their yellow tinge. Since the 6th inst. he has been taking Potass. iodid. grs. v three times a day. Was discharged well on December 20th.

In this case, although there was not the slightest doubt as to the diagnosis, yet, after the most diligent enquiries had been made as to employment, present and past, drinking water, use of beer and soda water from a pump, cooking utensils, food, &c., no clue whatever could be obtained as to the source of the poison.

CASE II.—James D., a well-nourished, large man, of previous good health, and of good family history, was admitted on December 7th, complaining of general weakness and inability to work, loss of flesh, pains in bones, and severe colicky pains in abdomen.

In beginning of last October went to work in a paint manufactory, mixing white lead. For four or five weeks continued in very good health, and then began to feel unwell, losing his appetite, feeling weak in extremities, especially in knees and wrists. After five or six days, began to suffer from violent colicky pains in abdomen, which seemed to be increased after meals, and somewhat relieved after opening of bowels. During the interval between this time and admission to hospital he has suffered from alternate conditions of constipation and diarrhœa, and frequent attacks of vomiting. Colic has been more or less severe during this time, sometimes being so painful as to cause patient to roll about on the floor in agony. Has also had pains

extending down to testicles, and pain at root of penis on micturition. Frequent attacks of salivation.

On admission—Muscles are found to be soft and flabby, and there are evidences of considerable emaciation; skin soft, moist, not discolored; slight yellowish tinge of conjunctivæ; no tension or marked retraction of abdomen; tongue moist and slightly coated; teeth and gums clean; lead line well marked, especially upon upper gums. Pain complained of is very severe, and referred chiefly to upper abdominal regions and around the umbilicus; pain seems to be most severe during the night, coming on about 10 o'clock, and is relieved somewhat by pressure over the abdomen. Also complains of dull, heavy pain in lower sternal region, especially after eating. Suffers frequently from cold, clammy perspiration. Complains greatly of pains in both knees, which also extends towards adductors of thighs; also severe pain in wrists, but no tendency to a palsied condition of these parts.

The treatment adopted was the same as in last case, viz., poultices to bowels, salines to relieve constipation, and morphia for pain, and latterly iodide of potassium in 5 grain doses. By these means a rapid cure was effected, and he was discharged on 2nd January, with instructions to renounce the dangerous employment he had been following.

Case of probable Multiple Sclerosis in an early stage. Reported by Mr. J. W. Ross.

James M., a fairly nourished lad of 17 years, was admitted into Hospital December 1st, 1880, to be treated for some paralytic condition. Has always enjoyed good health, but is a very dull, obstinate youth, and is said to have been awkward in his gait ever since four years old. On the day previous to admission, after having been in the house for a few days owing to a slight cold, he got up to walk across the floor, when he fell suddenly; he was helped up and assisted up-stairs to his room, being unable to go alone owing to weakness complained of in his left side. There was no loss of consciousness, nor frothing of mouth, nor convulsive movements.

Patient is of average size for his age, with a rather dull and stupid expression, and at times tending to be emotional. Slight difficulty in separating knees while lying in bed and in flexing legs on thighs; considerable impairment of muscular power of legs most marked in left; tendon reflex increased, but not excessive; ankle clonus easily developed, especially in left foot; sensation intact; no abnormal sensations. In walking, stiffness is noticed in the left knee, which seems to be bent with difficulty and the left foot drags somewhat; there is also apparent swaying of the body on turning round. There seems to be slight impairment in muscular power of left arm, which, on being lifted up, is seen to assume a slight lateral tremor, which is aggravated on attempting to control it. In speaking, the utterance is slow and hesitating, and accompanied with slight tremor of lips: at times it is quite monosyllabic and scanning in character, and at other times distinctly slurring, so that he is understood with difficulty. Thoracic and abdominal viscera apparently healthy.

His friends state that he has always been an obstinate and unmanageable boy, given to all sorts of vices; and that latterly he has been acting queerly and doing aimless things, such as wandering away from the house, and remaining away for weeks, and then returning home in a wretched condition. Remained a few days only, and returned to his friends.

Correspondence.

LONDON LETTER—MEDICAL NOTES.

To the Editor of THE CANADA MEDICAL AND SURGICAL JOURNAL.

SIR,—If I were to be required to select from among the physicians I have thus far seen about their work since coming to this metropolis a model of the "careful physician," that man would be Dr. Stephen Mackenzie, of the London Hospital. Even in the out-patient department, with its scores of cases daily, almost every case is sent into an adjoining room to strip for examination; and every organ is examined—no lurking places for fallacies or errors left. The ophthalmoscope is daily called into requisition in this routine out-patient practice; and in the

wards especially, Dr. Mackenzie devotes much of his time to medical ophthalmoscopy, a branch of our art as beautiful and interesting as it is valuable, for the *fundus oculi* is a sort of signal station where danger is indicated long before the coming catastrophe could be otherwise suspected, and when it may possibly be averted. Anent this very matter the doctor has now in his wards two rare and interesting cases:—

(1) Pernicious Anæmia, with *retinal hæmorrhages*; and

(2) A case of Land Scurvy, with obscure etiology, in which the whole *fundus* is covered with hæmorrhages, reminding the observer forcibly of large thickly disposed purpuric extravasations in the skin. This case, too, seems to be going from bad to worse; the pallor is extreme, and while the bleeding overhanging gums have improved, the patient seems to be gradually losing ground.

The result of the examination of the blood in the case of Idiopathic Anæmia was as follows: Red blood corpuscles, only one-fifth per cent; smaller, very pale; some with appearance of nuclei, and some with processes. The characteristic very small, very red corpuscles absent. The patient was a man of about fifty years of age.

Among this same class of cases may be put what is called *Peliosis Rheumatica*, a very peculiar affection; whether a distinct disease, or only a sequel of rheumatism, is undecided. In all the cases I have seen, the patients had either had rheumatism or had rheumatic pains. It is characterized by the appearance of successive crops of purpuric spots on the limbs, especially in the neighborhood of joints, which die away rapidly, leaving a faded-out tinge, very suggestive at first sight of a waning syphilide. Both the eruption and pains are evening phenomena. The whole malady calls for further investigation. This matter of purpura reminds me of a caution to be observed in the administration of iodide of potassium to children, viz., to begin with very small doses. A young child was poisoned fatally by a single dose of two grains and a half. There were large blotches of purpuric extravasation over the face.

Does tubercular meningitis, with recovery, ever occur? When

so able a trio as Dr. Hughlings Jackson, Dr. Sutton, and Dr. S. Mackenzie agreed on the diagnosis, it seems superfluous to doubt. There was recovery in this case; iodide of potassium was given. For meningitis, syphilitic and simple, the internal administration of mercury and iodide of potassium is being practised now with apparently good results.

Dr. Mackenzie has devoted considerable study to the subject of diabetes mellitus. A synoptical presentation of his views and treatment may be interesting.

(1) There is a characteristic *facies* and complexion; sad cast of countenance, moist eye, light brown hair, &c.

(2) It is very important to make a daily quantitative statement of the excretion of *urea*, as well as of sugar. The doctor has most elaborate tables prepared for him by his clinical clerks.

(3) When fatal, it usually terminates either by phthisis or coma-collapse.

Treatment—In addition to the usual strict dietetic rules, medicine is given. He tries first those drugs that are *anti-fermentative* in action, such as salicylate of soda, carbolic acid, and later, lactic acid.

Problems solved.—(1) Do gummatous nodes occur in secondary syphilis? Dr. M. related a case of a node of the heart, found *post-mortem* in secondary syphilis.

(2) Is the embolic theory of chorea correct? The following case bears in a suggestive way on this matter: A mother had mitral stenosis, which was followed by paralysis; her child had mitral stenosis, followed by chorea.

(3) Suppose a patient to have syphilis, and at the same time Bright's disease, should mercury be withheld?

Dr. M. had a case which I saw with exactly this complication (syphilis in the second stage, eruptions visible.) Mercury was given with great benefit in all respects.

(4) Can epilepsy be cured? A man presented himself at the *externe clinique* who had taken bromide of potassium for years after the fits ceased. He then ceased to take it, and for many years the fits did not return; but after a small operation

they again recurred. This was practically a cure, however, as the bromide soon arrested them, and so far effectually.

(5) Can diabetes mellitus be artificially induced, or, to speak more correctly, a permanent condition of glycosuria? This was clearly demonstrated in the case of a woman who had been accustomed to eat large quantities of sweetmeats daily as an antidote for pyrosis. After several months a well-marked glycosuria appeared, and still continues, notwithstanding months of treatment. This patient appeared at the hospital for relief from *pruritus vulvæ*. Now, how many practitioners, under the circumstances, would have diagnosed or suspected diabetes?

Dr. Woods' treatment of chronic dysentery with injections of nitrate of silver, in a very obstinate case in the wards, proved only moderately successful. Bael fruit is now being used in this case.

In a case of hysterical dysphagia, the passing of a bougie, with the promise to use it again if required, had an excellent effect.

You may hear again, Mr. Editor, of our careful and accomplished Dr. Mackenzie. We can all be imitators, and successful ones, if we will.

Yours faithfully,

T. W. M.

Reviews and Notices of Books.

A Practical Treatise on Surgical Diagnosis, designed as a Manual for Practitioners and Students.—By AMBROSE L. RANNEY, A.M., M.D., Adjunct Professor of Anatomy, and Lecturer on the surgical diseases of the Genito-Urinary organs and minor surgery in the medical department of the University of the City of New York, &c. Second edition, revised and enlarged. New York: William Wood & Co. Montreal: Dawson Brothers.

Dr. Ranney has produced a work which, although many others bearing a similar title are before the profession, possesses features of its own which render it original and commendable. The object has been to group together those disorders which, from possessing many features in common, are liable to be confounded to-

gether. Short descriptions of each are given, and then a tabulated statement is drawn up, thus showing in a few minutes the symptoms peculiar to the one and the other and wherein they differ. To this is generally added a note of the "symptoms in common," which enables the reader to see how it is that mistakes between them are likely to arise. This tabulated form of presenting points of differential diagnosis is extensively availed of, and is certainly one of the very best methods of showing, in a striking manner, the great points of contrast between affections having resemblance to each other. As far as we have been able to judge from a careful examination of several of the articles, we can say that, in the preparation of the work, every care seems to have been taken to render it as complete and as accurate as it is possible to be. A copious bibliography, which is added, also furnishes the means for any one wishing to investigate further any particular subject to learn where to seek it; and a good index, which is essential to a book of this kind, renders ready reference an easy matter. Eight parts or divisions are made, as follows: Diseases of Blood-vessels, Joints, Bone; Dislocations; Fractures; Diseases of the Male Genitals, of the Abdominal Cavity, and lastly, of Tissues.

In conclusion, we cordially recommend this book to the notice of surgical students and general practitioners. The typographical part is also excellent, which is always an extra attraction.

How persons threatened or afflicted with Bright's Disease ought to live.—By JOSEPH F. EDWARDS, M.D. Philadelphia: Presley Blakiston.

This is a little book of 87 pages, written expressly in plain and non-technical language, so that it might be put into the hands of intelligent lay people, as well as professional men. Its object is a very good, and it is quite possible that it may be the means of accomplishing more than many pretentious tomes. It is always in the right direction when our attempts are directed towards *preventive* medicine, and what is here aimed at is to point how, by suitable management, a formidable disease may be averted when threatening, or, at any rate, its evil effects

postponed when actually in existence. Bright's disease is notoriously common—probably getting more so ; it is very fatal, and it is very insidious. It is, at the same time, quite admitted that few diseases are liable to be so aggravated by neglect of hygienic regulations, or are so benefited by careful attention to the fundamental rules of health. After discussing the general subject of the nature of the disease, and derangements of the renal organs generally, the writer goes on to give a series of directions as to the mode of life most suitable for persons either predisposed to, or who have actually developed, Bright's disease. These rules refer first to *moral medicine*, where is shown the good effect of a quiet mind, settled convictions, and an absence of that care and worry which is the source of so many evils at the present day. Then personal hygiene, clothing, &c., receives attention. With reference to stimulants, no quarter is given. "Alcoholic liquors should be absolutely discarded in this disease; their use cannot be beneficial, and in the majority of cases will be absolutely injurious." Again, "a single puff of tobacco smoke means excess to a person whose kidneys are diseased." If that is true, the same must certainly be said of persons whose kidneys are *not* diseased. The subject of diet is, of course, carefully considered with reference to the chemico-physiology of digestion; hints are given with reference to regulation of the bowels, and care otherwise of the general health. It will repay perusal, and may, in suitable cases, be recommended to patients for their own guidance.

A Treatise on Diphtheria.—By A. JACOBI, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, New York; Physician to Bellevue, Mount Sinai and the German Hospitals, &c. New York: Wm. Wood & Co. Montreal: J. M. O'Loughlin.

This is the latest exposition of the views of perhaps the most experienced of American physicians on this important disease. The general opinions held by Prof. Jacobi on diphtheria are pretty well known through his writings in the medical periodicals for many years past. His entire experience is, however,

here elaborated and brought down to a recent date. One of the points to which we naturally turn is the matter of the etiology of the disease. Are the bacteria found in the membranes the exciting cause? Jacobi is one of the strongest opponents of this idea. He says: "I cannot look upon the bacteria epidemic in the medical journals, particularly of Germany, with the hasty conclusions and gratuitous assumptions of scores of experimenters and writers, as anything but a calamity, which, I trust, is but temporary. The safest verdict of the sober critic is still 'not proven.'" The author quotes, with his fullest endorsement, the following statement made by Drs. H. C. Wood and Henry F. Formad, as deduced from a series of experiments quite recently conducted by them with reference to the effects of inoculating diphtheritic exudation upon animals: "A general view of the anatomical and clinical facts seems to indicate that the contagious material of diphtheria is really of the nature of a septic poison, which is also very irritant to the mucous membrane, so that when brought into contact with the mucous membrane of the mouth and nose it produces an intense inflammation, without absorption by a local action." And again: "At present it seems altogether improbable that bacteria have any direct function in diphtheria, *i.e.*, that they enter the system as bacteria and develop as such in the system, and cause the symptoms. It is, however, possible that they may act upon the exudations of the trachea as the yeast plant acts upon sugar, and cause the production of a septic poison which differs from that of ordinary putrefaction, and bears such relation to the system as to, when absorbed, cause the systemic symptoms of diphtheria." The whole argument is presented in a clear and philosophical manner, and shows what a strong case can be made against Oertel and those who adopt his parasitic theory. The section of the work devoted to therapeutics is particularly full, as it is specially intended for the use of practical physicians. The chlorate of potash is recommended as a prophylactic. It is believed to be specially useful for the conditions of stomatitis and pharyngitis, which are so frequently met with when diphtheria is prevalent, and which, very likely,

predispose towards the reception of the poison; also, during the disease, to meet the same local conditions which are usually then present, but it is not thought to have any power over the disease itself. In accordance with the pathology as expressed in the above extracts, it is laid down as the fundamental principal that "local disinfection" must constitute our main reliance. This subject is very fully entered into. The writer does not think highly of the use of steam except in selected cases of pure laryngeal disease. Lime-water spray is thought to be unreliable, owing to the small quantity of lime introduced and its immediate conversion into carbonate. The author's experience and opinion is given upon treatment by turpentine inhalations, by ammonium chloride, by chloride of iron, by carbolic acid, salicylic acid, quinine, bromine, boric acid, sodium benzoate, &c., and a short resumé is given of a great many other lines of treatment by various means and different drugs of late years.

This must doubtless be looked upon as the standard American monograph upon diphtheria, and is of such value that it should be in the hands of every practitioner.

Medical Heresies, historically considered, a series of critical essays on the origin and evolution of Sectarian Medicine, embracing a special sketch and review of Homœopathy, past and present. By GONZALVO C. SMYTHIE, A.M., M.D., Professor of the Practice of Medicine, Central College of Physicians and Surgeons, Indianapolis, &c. Philadelphia: Presley Blakiston.

The first chapters of this little book consist of essays tracing the rise of the Art of Medicine in the early ages—the peculiar tenets of the various schools which arose at different times being critically enquired into and discussed. The last five chapters are devoted to demolishing the now crumbling structure still remaining to the devoted followers of Hahneman. This part of the work is evidently performed *con amore*, and any one wishing to possess himself of a complete stock of arguments against the prevailing heresy of the present day cannot do better than

read this "special sketch" of homœopathy. The writer has no difficulty in showing conclusively the plainly dishonest way in which the self-styled homœopaths now discard all the principles originally laid down by the founder as absolutely essential, and, whilst practising in an entirely different manner, yet retain the name in order to gain favor with a certain class of the community who still insist they have faith in a globule of the millionth dilution. The book is very readable, and contains a good deal of curious information concerning a number of shady proceedings of the homœopathic fraternity in connection with several public institutions in the United States.

Cutaneous and Venereal Memoranda.—By HENRY G. PIFFARD, A.M., M.D., Prof. of Dermatology University of the City of New York; and GEO. HENRY FOX, A.M., M.D., Surgeon to the New York Dispensary, Lecturer on Diseases of the Skin, College of Physicians and Surgeons, New York. Second edition.

Ophthalmic and Otic Memoranda.—By D. B. ST. JOHN ROOSA, M.D., Prof. of Ophthalmology in the University of the City of New York, &c., and EDWARD T. ELY, M.D., Assistant to the Chair of Ophthalmology, &c. Revised edition. New York: Wm. Wood & Co. Montreal: Dawson Bros.

The above are two handy little books of pocket size for ready reference. They are both written by authors well known in their special departments, and contain all the essentials of diagnosis and treatment compressed into very small space. For a student at out-door clinics, for example, they will prove very useful; for, having such a *vade mecum* at hand, he could at once refer, in any case with which he was not familiar, to the description given, and compare with the case actually observed. Things learnt in this way are not easily forgotten. To general practitioners, also, who do not possess more extended text-books on these specialties, they are also to be recommended as reliable guides to refer to when expedition is an object.

The Popular Science Monthly for January is again to hand, and contains, amongst other interesting articles, Part III. of

the Development of Political Institutions, by Herbert Spencer ; The Sabbath, by Tyndall ; Diet, by F. L. Oswald, M.D. ; Steam and Hot Air Engines, by Lungrew ; The Advantages of Ignorance, by Prof. Clarke ; Æsthetic Evolution in Man ; A Japanese Typhoon ; Artificial Hypnotism ; Indigestion as a Cause of Nervous Depression ; Oil Plants of French Guiana ; Lubbock on Insect Conservatism ; The Distinction between Real and Apparent Death, with the usual Notes, Literary Notices and Popular Miscellany.

Books and Pamphlets Received.

The Retrospect of Medicine. Edited by W. Braithwaite, M.D., and James Braithwaite, M.D., Lond. Vol. lxxxii. July-December, 1880.

Photographic Illustrations of Cutaneous Syphilis. By George Henry Fox, A.M., M.D. New York : E. B. Treat. Nos. 6, 7 and 8.

Lectures on the Surgical Disorders of the Urinary Organs, delivered at the Liverpool Royal Infirmary. By Reginald Harrison, F.R.C.S. Second edition. London : J. & A. Churchill.

Hand-Book of Urinary Analysis ; Chemical and Microscopical. For the use of Physicians, Medical Students and Clinical Assistants. By Frank M. Deems, M.D. New York : Industrial Publication Co.

Proceedings of Societies.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

A regular meeting of the Society was held November 26th, 1880. The President in the chair.

Dr. Bessey exhibited the patient upon whom he had practised vaccination for the cure of general psoriasis, the disease being decidedly improved. The vaccination was performed on both arms and legs.

Dr. Gardner read a paper on chronic cystitis in the female, treated by rapid dilatation of the urethra. (*See Original Communications.*) Mrs. B., aged 24, married three years, mother of one child, suffered from very frequent and painful micturition, the urine containing blood and pus ; the symptoms of disturbance of the bladder coming on three months after her confinement. The patient was much benefited by the treatment by rapid dilatation.

Dr. Trenholme said the question of rapid dilatation of the urethra was prominently brought before the profession by Simon. He had used it in vesico-vaginal fistula, after the operation, instead of the catheter, with good results, and deemed it an excellent plan. He had also used in one case, where alkalies and buchu had failed, $\frac{1}{8}$ of a drop of tincture of cantharides four times daily, with perfect recovery.

Dr. John Reddy said he had had two cases of calculi with cystitis, in which he had used small flexible bougies, and dilated for some time. The disease was eventually cured. Potash, buchu and hyoseyamus were also used, with a little cantharides.

Dr. F. W. Campbell had had a case of cancer of the bladder in which the finger was passed into the bladder, without any incontinence following this operation.

Dr. Blackader had a case of irritable bladder in a girl aged 19, who was passing urine loaded with phosphates and blood, and as it resisted all medicinal treatment, Dr. Roddick advised rapid dilatation, and the result for a short time was beneficial. There was no incontinence for more than a few hours. Since then the case had become worse again. At present she is obliged to rise frequently at night, and is passing pus and blood, and the pain is very great. From being well nourished she has become very anæmic and thin.

Dr. Roddick said he had had several cases in the Montreal General Hospital in which he had used dilatation. He had used Molesworth's uterine dilator, and believes it causes less irritation, as the pressure is by water. He had never seen any bad results in his own cases. He had diagnosed villous growths in one case. After dilatation, passed his finger in, and found a growth the size of the first phalanx of the index finger. He squeezed this off with the finger. A perfect cure followed.

Dr. Geo. Ross said this operation was useful from a curative point of view, but should we use it prior to using other plans of treatment? Medicated injections prove satisfactory in many cases, and these means should be employed before resorting to dilatation.

Dr. Hingston said he had performed the operation several

times with a uterine dilator. Many of these cases he thinks to be fissure of the urethra, near the neck of the bladder. In passing the finger, the pain is slight at the meatus, but decided at the neck of the bladder. With regard to medicinal treatment, belladonna or atropine in small doses was a very successful remedy.

Dr. Cameron mentioned a case of diphtheritic endometritis occurring in a primipara on the fifth day. On the fourth day the pulse and temperature were normal; at 10 that evening was quite comfortable; at 10:30 had a slight creeping sensation at the knees; hot bottles applied to her feet; at 6 expressed herself as comfortable, and felt sleepy. The nurse noticed an unnatural look about the face, and at 7 Dr. C. was sent for, and found a temperature of 110.5°F. and pulseless. Dr. McCallum, who saw the case after death, was unable to give an idea of the cause of death, and it was at a *post-mortem* examination this diphtheritic exudation was seen. Patient had had no pain or chilliness. Dr. Roddick having asked Dr. Cameron whether he had any cases of diphtheria under treatment, the latter said no, not for six weeks; and no vaginal examination was made after birth of child. The closet opened directly into the bedroom. Dr. Roddick asked these questions as he believed the nurse is often to blame. In July last he was attending a bad case of erysipelas, which extended from the foot and went over the entire body. Had nurse for a fortnight. One day on visiting patient, nurse had disappeared, and found she had gone to attend an accouchement. Dr. F. W. Campbell said it was one of his patients she had attended, and she had had all the symptoms of puerperal fever. Dr. Trenholme said that those nurses that are trained in the hospital are not as good as an old woman. Dr. F. W. Campbell said it was a question in his mind whether this was a diphtheritic membrane.

Dr. Ross said he regarded the case as one of profound septic poisoning. He had had two cases of diphtheria of the external parts, and in neither case could he trace it to any cause. One of these patients died of acute ascending myelitis three months after.

Dr. Hingston said three days ago he had had a patient of 18 years of age suffering from stone in the bladder. He operated after Bigelow's method, the operation lasting forty minutes. He introduced a No. 27 catheter (French measure.) In another patient, aged 9 years, he had introduced a No. 7 sound, and decided to operate to-day. The introduction of the sound did not take half a minute, but last evening he died, 27 hours after the introduction of the instrument. It is a fact that the urethra is at times in such a condition of irritability that it is more susceptible to injury than at others.

The meeting then adjourned.

A regular meeting of the Society was held December 10th, 1880. The President in the chair.

Dr. Osler showed a specimen from a case of cerebral apoplexy occurring in an old woman, in which is seen a distinct aneurismal dilatation. He also showed a heart exhibiting extreme fatty degeneration from anæmia; the patient died from pleurisy.

Dr. Osler presented, from Dr. Robt. Howard of St. Johns, P.Q., a specimen of enlarged spleen, accompanied with the following notes:— L. B., aged 16 months, was first seen July 25th, 1879. There was extreme pallor of the skin, the limbs were greatly emaciated, and the abdomen unusually prominent. The outline of the spleen was distinctly felt, extending from the umbilicus to the spine, and from the ribs to the crest of the ilium. The child had suffered from boils on the head a few months before, this being the only sickness. It has now frequent attacks of diarrhoea and vomiting, also hæmorrhages from the nose and ear. There is no febrile disturbance. Patient died Dec. 8th, 1880.

Dr. Molson then read a paper on a case of rheumatic purpura. (*See page 333.*)

Dr. Osler said he never saw such a condition of face in any individual. He had seen some purpura in cases of small-pox, but they were nothing to the appearance of the present case.

Dr. R. P. Howard said he had distinct recollection of two cases. Several years ago he saw a case of rheumatism and purpura present, confined to the integument. Rashly, one or

two leeches were applied, and the patient nearly lost her life. He had also had an earlier case, occurring in a grocer in 1864. While in his usual health his knee and both ankles became swollen and painful, with mild febrile reaction; there was also redness. These rheumatic symptoms subsided, but not so the hæmorrhagic condition. Hæmatemesis and melæna set in, and patient was dying, when transfusion was performed, but he died five or six hours after. Dr. Howard said when summoned to a case of purpura, suspect either black small-pox, cerebro-spinal fever, or puerperal fever; it is sometimes, though rarely, also seen in scarlet fever. He thinks the morbid poisons in the system the cause of this condition of purpura—possibly some alteration in the crasis of the blood itself, due to this morbid poison. Parkes, in two cases, found iron in the blood. Some chemical alteration takes place in the blood causing this purpura hæmorrhagica.

Dr. Roddick had a case three years ago, which he considered to be purpura, complicating rheumatism. The rash appeared on the legs on the fourth day, then on the body and the arms. On the second visit after the appearance, a second crop was seen, the patient being anæmic.

Dr. Rodger mentioned a case of membranous croup in which Dr. Roddick had performed tracheotomy, and the patient recovered. On the eighth day the tube was removed, and no difficulties followed.

Dr. Hingston said he was present lately in a case of membranous croup with Dr. Wilkins. The child was apparently dying, and after the first incision the child seemed dead; he went on with the operation, artificial respiration was performed, and breathing restored. Dr. Roddick said, of all the cases in which he had operated, this one appeared the least favorable. He thought many cases die from anæsthetic poisoning.

The meeting then adjourned.

A regular meeting of the Society was held January 7th, 1881. The President in the chair.

Dr. Osler exhibited—1st, a specimen of intussusception of the

bowel, taken from a lad aged 14 who had died in Dundas, Ont. About 5 feet of the smaller bowel had become invaginated, the lower part gangrenous. Copious hæmorrhage had preceded death, which had followed in four days. The matter of special interest in this case was the presence of a peculiar sub-mucous fatty tumor, which he thought to be the cause of this condition of the bowel. The 2nd specimen showed rare sequelæ of typhoid fever; patient died in the middle of the 6th week. The ulcers in the ilium are in a state of cicatrization, some completely so, but the large ones are still left the size of 5 cent pieces. The large intestine is like one in a condition of chronic colitis; also, the femoral vein was large, soft, fluctuating, and when cut into showed gummous-looking matter.

Dr. Edwards then read a paper sent to the Society by Dr. G. C. Duncan, of London, England. (*See Original Communications.*) This paper gave some facts of interest which had occurred in his practice, the cases reported relating specially to the treatment of stricture, showing the advantage of combining dilatation with constitutional treatment.

Dr. F. W. Campbell proposed, seconded by Dr. Bell, that the thanks of the Society be sent to Dr. Duncan, and that the Society will be pleased to hear from him at his convenience.

Dr. F. W. Campbell drew the attention of the Society to several cases of follicular ulceration of the throat, of a severe kind, occurring in his practice, bordering very closely on diphtheria.

A discussion followed, in which Drs. Kennedy, Bessey, Bell and others took part.

Dr. Roddick then read a paper on "Varicose Veins," with special reference to treatment of excision of a portion of the vein, this operation being rendered safe under the Listerian spray.

Dr. F. W. Campbell related the facts of a case in which he took unusual interest. The varicose vein was situated between the second and third finger of the right hand, caused by a tremendous squeeze of a vigorous friend. Prof. Lister operated, exposing the enlarged vein, applying a carbolized ligature at either end, and then, with curved scissors, cutting out the enlarged part.

Dr. Trenholme said he had had good success by the Vienna paste, and perfect occlusion and radical cure. Apply a bit of about 10 grains, and with it a little water, and it makes an eschar. He used Pond's Extract Hamamelis externally and internally during pregnancy.

Dr. Hy. Howard thought this paper of unusual interest, as the ligature of a vein in previous years was feared to be followed by phlebitis. Now antiseptically treated it seems the danger is not present.

Dr. Roddick said Vienna paste is very apt to be followed by erysipelas. He saw one case in which Potassa Fusa was used by Dr. Fraser in the Montreal General Hospital, and death followed from erysipelas. The application of three needles caused inflammation of the internal coat, and was followed by death. Surgeons have shirked operations on veins, but he was confident that Listerism opens a safe way for this operation.

The meeting then adjourned.

Extracts from British and Foreign Journals.

Unless otherwise stated the translations are made specially for this Journal.

Bathing.—The remarks made concerning the too frequent changing of the under-garments by delicate patients, will apply with equal force to too frequent bathing of the body, by the same class of individuals. Ablution should not be performed oftener than the surface of the body requires cleansing, which, in all probability, will not be oftener than once in one or two weeks in warm weather, and once in four or eight weeks in cold weather, or it may not be required at all during cold weather. As patients regain strength and flesh, they will observe that the oil on the skin will increase in quantity, and that with this increase extraneous matter will accumulate on the surface faster than when they were in a weaker condition, consequently they will require to be washed more frequently; nevertheless, the bathing should be postponed as long as consistent with cleanliness, until full and healthful vigor is enjoyed.

The temperature of the bath and the air in the air bath-room

should be such as is pleasant to the bather. It is not uncommon to hear the opinion expressed that general bathing in cold water acts as a preventive of cold. This is far from being true, even in a majority of instances. Those who are the most ardent advocates of this plan of preventing colds are usually individuals who are themselves in full vigor of health, and who are possessed of a strong constitution. In the case of a fat, healthy individual, cool water bathing may not take off too much oil from the body, as there is a superabundance of this non-conductor of heat secreted by his skin. It is principally on account of this superabundance that he requires frequent washings. At each of these bathings his body will react quickly and perfectly, but as respects those that are thin in flesh and in a weakly condition, the case is quite different. They do not possess the strength necessary to overcome the sedative effects of a bath at a low temperature, nor can they lose the oil from the surface of the body without injury.

The Turkish and Russian baths are beneficial to patients in full flesh, but patients who are in delicate health *should not* take either of these baths; they are too debilitating, and rob the skin of oil, thus rendering them more susceptible to the bad effects of sudden changes in temperature. The frequency with which either of these baths may be repeated will depend much upon the vigor of the patient; one, or at most two baths a week will be all that a catarrhal patient should take, even if he is in vigorous health. After eight or ten baths are taken, then one every ten or fourteen days will be sufficiently frequent. Great care should be taken to allow the body to cool off before leaving the cooling-room. I have known of several instances in which a single Turkish bath paved the way for a cold so severe that it threatened the life of the bather, on account of the stay in the cooling-room being of short duration. The concurrent opinion of a large majority of my patients who have frequented these baths is that the bather who is liable to take cold easily should not venture out-doors before he has remained full one and a half hours in the cooling-room.

Since the fall of 1876, I have recommended those of my

patients who I thought were liable to take cold after these hot baths to apply, just before dressing themselves, a small quantity of vaseline to the surface of the whole body. Most of them liked the effect of it; a few, who weighed in the neighborhood of 200 lbs., did not notice any good effect from its application, while those of them who were rather sparsely built were sure that it had the effect of preventing them from taking cold, and that it seemed to prolong the pleasant and beneficial effects of the hot bath.—*Dr. Runbold's Hygiene of Catarrh.*

Abscess of Spleen Extending to and Involving the Liver.—By W. F. MURRAY, M.B., Officiating Civil Surgeon, Burdwan.—Ghanoo, a Hindoo aged about 42 years, was admitted into the Burdwan Government Dispensary on 25th May, suffering from an abscess in the epigastric region slightly to the left side. The opening to the abscess was large, sloughing and unhealthy looking.

Previous history.—It was stated by the patient that about two months previously he had suffered from fever of a remittent character and from a pain on the left side of the abdomen, which was increased by pressure or motion of the part; that this was followed by a swelling which was operated on by a native practitioner, giving exit to a large quantity of purulent matter, about a month before admission.

Symptoms on admission.—A large oedematous swelling occupying the left hypochondrium and a portion of the epigastric region; its diameter about 5 inches. About its centre was an opening directed backwards and to the left side for more than 6 inches, an ordinary probe not reaching the opposite wall of the abscess. The left hypochondrium and the left half of the epigastric region was dull on percussion. The discharge from the abscess was thin but copious and offensive, having a slightly reddish-brown tinge.

Constitutional symptoms.—The patient had a very weak and emaciated appearance; ribs prominent; eyes sunken and countenance anxious, pulse weak and frequent, varying from 90 to 114; temperature low, varying from 95° to 95.7°. Hectic fever: passing frequent stools. His condition became

a moribund condition, an intravenous injection of goat's milk, rendered alkaline by ammonia carb., was made into the median cephalic vein. The operation was followed by marked effects. There was a cessation of the diarrhoea, great improvement of the pulse, and a rise of temperature from $95\ 4^{\circ}$ to 100° . This improvement though striking was but temporary, lasting for about 48 hours. He again fell into a state of collapse attended with low pulse and cold perspiration followed by diarrhoea and death on the 3rd June.

Treatment.—Locally charcoal poultices, cavity of abscess syringed with dilute solution of carbolic acid, also tinct. ferri perchloridi in solution; internally quinine, stimulants, tonics, Dover's powder and gallic acid to check diarrhoea, and finally intravenous injection.

Post-mortem appearances.—On opening the abdomen the abscess was found to be one mass of slough and purulent matter. There was literary no spleen. What had originally formed the membranous investments of the spleen, constituted part of the parietes of the abscess, which had extended into and destroyed a portion of the left lobe of the liver about the size of a large orange. The parts about the abscess were considerably thickened and disorganized.—*Indian Medical Gazette.*

Treatment of Nervous Palpitation of the Heart by the "Congestive Attitude."—Dr. Baüchut states that by the assumption of what he terms the "congestive attitude," nervous palpitation, not dependent on organic disease of the heart, may be instantly arrested. His directions are these: The patient stands erect, fixes his lower limbs and stoops over rapidly in such a way as to touch his toes with the tips of his fingers. The head then falls forward, and its vessels are at once rendered turgid. If the hand be now placed on the cardiac region it will be found that the palpitation has ceased, the disordered impulse being replaced by a regular and rhythmical action. It is obvious that this treatment is not applicable in the aged or those who indulge in alcohol, or in short, those in whom the integrity of the arterial or nervous system is doubtful.—*International Journal of Medicine and Surgery.*

A New Physical Sign of Thoracic ANEURISM.—At a recent meeting of the Northumberland and Durham Medical Society, Dr. Drummond, of Newcastle, demonstrated a new physical sign, which is likely to be of great diagnostic importance in thoracic aneurism. When a patient suffering from aneurism of the thoracic aorta is made to draw a long breath (inspire deeply), then close the mouth and expire slowly through the nose, short puffing expiratory sounds are heard—synchronous with the systole of the heart—on auscultation of the trachea. Dr. Drummond believes this phenomenon to be due to the sudden systolic expansion of the sac expelling air from the chest. He has found it absent in cases of aortic valvular disease simulating aneurism, but has not yet thoroughly worked out the significance of the sign.—*Medical Press and Circular.*

Singing as a Cause of Uterine Disease.

—Dr. Clifton E. Wing publishes in the *Boston Medical and Surgical Journal* some very interesting cases relating to this subject. He had several lady-patients, who came to him for uterine trouble, and all voluntarily asserted their belief that the complaints were due to the “abdominal method” of singing which they had been trying to learn. This consists in the cultivation of diaphragmatic respiration at the expense of thoracic. It naturally causes great pressure to be put upon the abdominal organs. One Boston teacher boasts that by “proper practice” such power may be acquired that if the person be placed back against the wall, and a full-sized piano be moved up against the retracted abdomen, the latter, by the “abdominal method,” can be so forcibly expanded that the piano will be pushed rapidly away. The new method adds greatly to the power of the voice. Dr. Wing found in the cases examined that it had caused a retroflexion or retroversion, with various coincident ills. He believes that in the “abdominal method” as now practised we have a fruitful source of uterine displacement.

CANADA

Medical and Surgical Journal.

MONTREAL, FEBRUARY, 1881.

DOES TYPHOID ARISE SPONTANEOUSLY ?

We give considerable space this month to the publication of the very careful report of the Commission which investigated the sanitary state of the Lennoxville school and college buildings with reference to the recent outbreaks of typhoid fever. The recommendations made, which certainly seem calculated to meet the case, will, we trust, prove the means of having this important institution put on a footing again to command the confidence of the public. Whilst the various procedures connected with remedying the sanitary defects discovered are being carried out, the authorities have very wisely moved the school to Magog, so that no actual interruption to the study of the scholars has been involved by the unfortunate visitations of sickness.

We have been shown a printed sheet which was circulated some weeks ago amongst the parents of the pupils, explanatory of the then position of affairs. Part of this consists of a preliminary report by the medical commission (that now published having not yet been completed.) This report contains a statement so important, relative to the causation of the disease under consideration that we do not think it should pass without some remark. It is as follows:—"It must be laid down as a fundamental principle in the investigation of outbreaks of typhoid fever that defects in situation, drainage or ventilation cannot of themselves originate the disease, but may furnish conditions suitable for the propagation and spread of the poison when once introduced." It will be specially observed that this is not given

as the opinion of the gentlemen making the investigation, but it is stated as a *fundamental principle* relative to the origin and spread of the disease. Of course, if this means anything, it means that that view has been so satisfactorily proven as to be universally accepted by scientific medical observers. Now, we are prepared to contend that, instead of this being one of the even *generally admitted* facts concerning this disease, the question of the spontaneous origin of typhoid is still one on which the profession are much divided. In spite of all that has been written on the subject, the supporters of neither one view nor the other have been able to force the consent of their adversaries. If, therefore, under certain (not well understood) conditions, the poison of typhoid *may* be generated *de novo*, from putrefying excreta, then certainly defective drainage *may* be the direct exciting cause of the appearance of the disease. If it be true that pre-existing typhoid germ (or poison) is absolutely essential for the development of a single case of this specific disease, then by all means let it be known. Science demands only the truth. But as long as this is very far from being proved—in fact, probably the very opposite being the truth—then calling it a fundamental principle is not only an error, but an error which may do harm. Nothing certainly tends more to command the greatest care and thoroughness in sanitary matters than the conviction that the neglect of these is capable of increasing or possibly developing this formidable complaint. Nothing so much to self-satisfied contentment with very indifferent arrangements, than the idea that, so long as you keep the actual germs out of your drains, no typhoid can possibly spring therefrom.

It may not be amiss when we are upon this subject and to support the position we have taken above, to quote the following words from some of the standard authors, making no selections to uphold one theory alone, but giving the views of supporters of both sides of the question. We only wish to show that the point is an undecided one.

Dr. Murchison, in his classical treatise on the continued fevers, says:—"Typhoid fever may be generated independently of a previous case by fermentation of fœcal and per-

haps other forms of organic matter ;” and quotes Hudson as follows : “ Upon no subject in practical medicine is there a larger or more constantly increasing mass of evidence than as to the power of fœcal miasm to generate typhoid fever, and to the fact that it does so. ”

Dr. Harley, in Reynold’s *Cyclopædia of Medicine*, says : “ We must conclude that this disease has a spontaneous origin in putrescent matters—that these, when preserved from the purifying influences of air and water, generate a poison which, when admitted into the body, produces enteric fever. ”

Prof. Austin Flint, of New York, says :—“ It is vastly probable, if not certain, that effluvia from excrement not containing typhoid dejections may cause the disease. ”

Prof. Pepper, of Philadelphia, in a clinical lecture published 15th January last, says :—“ For my own part I do not believe that this transplanted excrementitious poison is the only one, but think that the poison may be generated *de novo* from *effete* animal and vegetable matters. ”

Liebermeister opposes the view of Murchison and the others, saying :—“ The most convincing experiences show that typhoid fever never originates in any unusual amount of decomposing matter, nor from any circumstances favourable to decomposition, but is always preceded by the introduction of a case of the same disease. ”

Dr. Bristowe regards the “ essential cause of enteric fever, not as a mere inorganic, or even organic, result of decomposition, but (like other contagia) as an organized living particle, which has special endowments and unlimited power of multiplication : not as the product of healthy bowels or of ordinary decomposing ordure, but as a specific virus, yielded by the bowels of patients suffering from enteric fever, and probably by them alone. ”

Dr. Roberts Bartholow takes the same view. He says : “ Typhoid poison is never produced by mere decomposition of animal matter, fœces, or the contents of sewers : it is essential to the formation of the poison that the typhoid germ be present. ”

Thus we might multiply authorities indefinitely. It is plain

that the question is still *sub judice*. It would have been quite proper for the members of the Lennoxville Commission to state *their own opinion*, but we have felt constrained to differ from them when they lead the public to accept these opinions as confirmed by the general consent of the profession at large.

OFFICIAL ACCOUNT OF TYPHOID OUTBREAKS AT LENNOXVILLE.

The local Committee of Management of Bishop's College, Lennoxville, in publishing the following report of the Medical Commission, appointed to examine into the causes of the recent outbreak of typhoid fever, deem it right to give a short statement of the first and subsequent appearances of the disease and the steps taken by them in the emergency.

Early in the spring term of 1880 two boys from the United States were taken down with pneumonia, the disease having shown itself almost immediately after their arrival at school. These boys were attended by Dr. Austin, the medical officer of the school, and by a physician from the United States. They recovered after a protracted and dangerous illness. No other cases of illness occurred in either college or school during the whole of the first term of 1880.

In the month of May a bad smell was noticed by Dr. Lobley, the Principal of the College, in the College building—which was found to emanate from the drain of the night water closet—and was caused by an inflow of water from outside of the building. An examination disclosed the fact that this drain discharged into the ground some few feet from the main barrel drain or sewer. Repairs were instantly made and disinfectants in large quantity applied, and the whole work, which took only a very few days to complete, was finished by the 22nd May.

It should be here stated that the rebuilding of the college after the fire, when the night water closet was constructed, was under the supervision of a competent architect, Mr. Nelson, of Montreal, and that a clerk of works of good reputation, Mr. Richard Richards, was employed to oversee the work. Had Mr. Richards done his duty this gross neglect on the part of the contractor could not have occurred. At the end of May one of the boys in the school was taken ill during a time of intensely hot weather. Dr. Austin reported the case as one of sunstroke, not severe. When the boy was recovering he was called into Montreal by his father, and the medical man there discovered symptoms of typhoid fever about the case. The Committee was, however, not informed of it, and even if they had been, it would presumably not have created any anxiety in their minds as it was deemed a very mild case. On the 21st June Mr. Cook, a student in the college, exhibited feverish symptoms and went home, but in his correspondence with Dr. Lobley he made no allusion to typhoid fever. On the 24th June the college and school broke up for the holidays, and with the exception of the cases mentioned all, both students and boys,

appeared to enjoy robust health. The usual games had gone on, and the severe mental strain of the examinations had passed off without any appearance of illness.

Somewhere about the 10th July news came of the illness of Mr. Gibb, a student of the college, suffering from typhoid fever, and soon afterwards his death was announced. Almost simultaneously news of the illness of several school boys and one or two of the students reached the college. Alarm was felt at once and the Committee was called together without delay. On the advice of Dr. Austin it was determined to reconstruct the whole drainage system, which on examination was found to be defective and the advice and active assistance of Mr. Walter Shanly, C. E., was sought for and freely given. At the request of the corporation of the college, which was called together in the emergency, Dr. Godfrey, of Montreal, who happened to be in the neighbourhood made an inspection of the drainage system and suggested some modifications, which were adopted. Dr. Godfrey was assisted in his investigation by Dr. Robertson, of Lennoxville, at the request of Principal Lobley. At the time of the reconstruction of the drains, the prevalent idea was that the trouble was due to the defective drain above mentioned, but the Committee found great difficulty in coming to any conclusion on the subject owing to a difference of opinion amongst medical men, some of whom declared that the disease might be dormant in the system during three or four weeks at a maximum, whilst others said that as many months might pass before it would be developed.

During the progress of the drainage work the Committee determined on the removal of the wood-sheds and latrines from the centre of the great college yard, where they had long been an eye-sore, and it was on this ground alone that they were removed. This involved the filling up of the cesspit, which was very thoroughly done, new earth and disinfectants being thrown into the space. About the same time the Chairman of Trustees urged that the well water should be sent to Montreal for analysis. This water was freely used by the whole institution.*

The following gives the result of the analysis by Dr. Baker Edwards :—

BEAVER HALL HILL, Montreal, Aug. 19, 1880.

ED. CHAPMAN, ESQ., M.A.,

Bishop's College University, Lennoxville.

SIR,—I hereby certify that I have analyzed the sample of water which you forwarded to me from the well supplying the college and school, and that I have very carefully examined the water, both chemically and

* In an article published in the January number of the *Canada Medical and Surgical Journal*, signed by Dr. Worthington, it is stated that he some years ago was one of a Commission, consisting of Dr. Johnston, of Sherbrooke, Dr. Robertson, of Lennoxville, and himself, to examine the sanitary condition of the then school, and that he at that time condemned this well. The report of this Commission contains no allusion whatever either to this well or to any water supply.

In this respect, as in many others, the doctor has drawn on his imagination.

microscopically for any deleterious matter, and find it *perfectly pure and wholesome and well adapted for drinking purposes*. The water contains *per Imperial gallon*:—8.4 grains of total solid matter; of which 7.7 grains are mineral; 0.7 grains are organic.

The mineral matter consists of carbonate of lime and magnesia, with a trace of iron and alumina and the usual saline chlorides of sodium and potassium.

The hardness of the water (as indicated by "Clarke's test") is 5°, which ranks the spring as a "*soft water*."

The organic matter present is of a simple vegetable character, and free *albuminous, nitrogen and nitrates*.

On the whole you may be satisfied that your water supply is not only pure but excellent.

I have the honour to be,

Your obedient servant,

J. BAKER EDWARDS, D.C.L., F.C.S.

Professor Practical Chemistry and Public Analyst, &c.

This analysis satisfied the Committee, who, not being scientific chemists did not know then that strong doubts existed as to whether the origin of typhoid fever could be detected by analysis.* Under these circumstances, with a new drainage system supposed to be perfect, and with the water in use pronounced by a scientific analyst to be "not only pure but excellent", the college and school re-opened in September.

In October, owing to the unprecedented drought, this well, which had never been known to fail, although used for over twenty-five years, ran dry. The water, however, soon came in again on the setting in of the rains of autumn. In the beginning of November the pump at the well was frozen, and thenceforward the use of the water ceased.

During the whole of this time the health of the college and school seemed excellent, and the athletic games, principally foot-ball, were vigorously prosecuted. In the end of November several cases of typhoid fever made their appearance. The Committee were startled and again sought advice. The water was again sent in for analysis, and this time not the well water only but that used for culinary purposes obtained from a reservoir in the woods, as well as the water used by the cows at the farm houses whence the milk was obtained.

The following is the second analysis of Dr. Baker Edwards:

(COPY.)

MONTREAL, 12th December, 1880.

R. WHITE, ESQ.

DEAR SIR,—I have carefully examined the three samples of water from Lennoxville as minutely as the limited quantity permitted, and can safely

*After the completion of the work it came to the knowledge of the Principal that the results of Dr. Baker Edwards' analysis were called in question by Dr. Worthington, and that he had expressed an opinion that the well ought to be closed. But so much reliance did the Principal place upon the report of the Public Analyst that he took no action upon this.

say that none of these are polluted by sewage or contain organic germs likely to cause sickness. No. 1 is the least pure and contains much suspended matter, and I should not consider it fit for drinking purposes unless filtered. No. 2 is a good spring water, free from organic nitrogen and containing 8.40 grains of solid mineral matter to the Imperial gallon, this corresponds with the water I analyzed in August last, and it is in every respect an excellent drinking water. Sample No. 3 is less pure, but is a perfectly wholesome water, and sample No. 4, town supply, shows more organic matter than either of the other samples. If the sample No. 1 is in use I should like to examine a larger quantity, say one gallon, as from the presence of a rat's hair possibly the bottle was not clean, this water is also turbid with suspended clay.

No. 1. Sample taken from tank in stable at Lunden's farm. No. 2. Sample taken from well in court yard. No. 3. Sample taken from tank in school from spring brought in by gravitation. No. 4. Sample is the supply used in the city of Montreal from the Water Works.

I am, yours most truly,

(Signed,) J. BAKER EDWARDS, D.C.L.,

Public Analyst, Montreal.

Being completely puzzled at the cause of this second outbreak the Chairmen of Trustees visited Montreal and called a meeting of gentlemen friendly to the college, amongst whom were the medical men who kindly accepted the duty of examining and reporting on the whole matter. The thanks of all who take an interest in Bishop's College and school are due to these gentlemen for their patient investigation of the case, and the Committee while regretting that this investigation has failed in discovering the origin of the outbreak have yet scrupulously followed the suggestions made from time to time by the Medical Commission, as well as the direction of the Sanitary and Drain Inspectors of Montreal, who also kindly lent their valuable assistance.

It is because these suggestions cannot be fully carried into effect until the summer that it has been found necessary to open the school temporarily at Magog, whilst the work of the college is going on as usual at the Village of Lennoxville in other buildings away from the college.

The annexed report of the Medical Commission is now published at the earliest possible date after its receipt. The delay in furnishing this report is attributable to the desire to leave no stone unturned in the investigation of this case.

In conclusion, the Committee of Management believe that the sympathies of all right-minded men will be with them in this trying emergency. The trust which they have undertaken—that of carrying on a College and School—at great personal sacrifice of time and money, with the sole desire of doing their duty to the country in which they live, and to the Church of which they are members, has been an arduous one, albeit a "labour of love," and they cannot but express their deep regret that the editors of a

Scientific Journal should have been led to form one-sided conclusions, when they, at the same time, acknowledge that they have had only an *ex parte* statement before them.

J. A. LOBLEY, D.C.L., Principal,
 A. C. SCARTH, M.A., Prof. Educ'l History,
 R. W. HENEKER, D.C.L., Chairman of Trustees,
 ED. CHAPMAN, M.A., Bursar,
 HENRY ROE, M.A., Professor of Divinity,

Members of the Committee of Management.

N.B.—The name of the Rector of the School is omitted on account of his necessary attendance at Magog.

*To the Chancellor and Corporation of the University of Bishop's College,
 Lennoxville.*

GENTLEMEN,—We, the undersigned, having been appointed a commission to inquire into the origin and spread of an outbreak of typhoid fever which occurred during the summer and autumn of 1880 at Bishop's College and Grammar School in Lennoxville, beg to submit the following report:—

We personally inspected the Institution on the 19th and 20th December last; and at our request, the College authorities invited Mr. Radford, the Health Inspector, and Mr. Lowe, the Drain Inspector, of the City of Montreal, to carefully examine the drainage and ventilation of the premises. These gentlemen have kindly complied with the request, and have submitted to us an elaborate statement of their investigations, together with a number of valuable suggestions, which we have embodied in this report.

For the sake of brevity and convenience, the subject will be considered in sections, as follows:

Situation.—The School and College buildings stand upon an eminence at the junction of the Massawippi and St. Francis rivers, near the village of Lennoxville. The soil is generally light and gravelly, the situation open and airy, and admirably adapted for a large public institution.

Medical history of the Institution in reference to Typhoid Fever.—We are informed that ten or twelve years ago a boy contracted typhoid while at school, but no other cases occurred; from that time to the re-opening of the College and School after the Christmas vacation in January, 1880, we do not find anything in this connection calling for special comment, beyond the fact that in the summer vacation of 1875 one of the boys died of typhoid fever in Lennoxville, but the disease was evidently contracted after leaving school, in the house where he was visiting. In February, 1880, shortly after the re-opening of the school, two cases of illness of a somewhat suspicious character occurred, in both instances the boys were ailing when they returned to school, and one of them continued ill for about two months; unfortunately, we have been unable to come to a positive conclusion with reference to the precise nature of these cases. On the 18th of May a drain in the quadrangle was opened for repairs; one of the boys

descended into it, and shortly afterwards he developed typhoid fever at his home in Montreal. In July, after the School and College had closed, reports began to come in of other cases. Altogether, we have been able to trace twelve cases in this epidemic—five from the College and seven from the School. During the months of August and September, the sanitary condition of the Institution was investigated, and found to be very unsatisfactory. A new system of drainage was substituted, new latrines built, and many improvements made under the direction of a competent engineer. The reasonable hope was entertained that no further trouble would occur. On September 22nd the School re-assembled. During October and the early part of November the health of the pupils was excellent, but towards the end of the month six boys and one resident student were taken ill with the fever. About the middle of December, a servant boy employed about the kitchen and dining-room was also attacked. Two other cases that developed the fever at their own homes have been reported, making in all 10 cases during the second epidemic. There was nothing in the distribution of the cases through the College and School which could favor the idea that the disease originated in any special quarter of the Institution.

Internal Economy and Commissariat.—The boys and students take their meals together in the dining-hall; in other respects the institutions are separate and distinct.

Milk Supply.—We visited and inspected the dairy farm, and while we found no reason to ascribe the outbreaks of typhoid to any contamination of the milk, we would draw attention to the dangerous proximity of the well, privy and stable, and to the faulty position of the tank, which is at present below the level of the stable floor. These conditions, in the event of any cases of typhoid occurring at the farm-house, would prove a ready means of spreading the disease.

Water Supply.—The water supply of the Institution is derived from (1) a well in the quadrangle, 19 feet in depth, and, at the time of our visit, containing 2ft. 4in. of water. On account of its supposed purity, this water was used almost exclusively for drinking purposes. During the exceptional drought of last season this well ran dry, and was not available for general use until some time after the opening of the School. The well is situated at the lower part of the quadrangle, at a distance of 90 feet from the old latrines, the soil between being of a light gravelly nature, and the dip being towards the well. (2) A spring in the Beaver Meadow, the water of which, after passing along in an open stream for some distance, is collected in a tank and conveyed thence through perforated logs to a large reservoir in the School building, whence it is distributed to the various parts of the establishment.

Analysis of Water.—The analysis of water was made by Professor Croft of Toronto; the following is a copy of his report:—

Report on Three Waters from Lennoxville.

No. 1, water from cistern in school. | No. 2, water from well in quadrangle.
No. 3, water from Duffield's well.

It did not seem requisite or desirable to make an accurate quantitative

analysis of each specimen, as the mineral constituents, unless present in abnormal quantities, could have little or no effect on their medicinal properties, and no chemical test can recognize typhoid germs. It appeared desirable to test the waters qualitatively as to their constitution, as to presence of ammonia or ammoniacal salts, chlorides, and organic matters, also for magnesia. By an accident from frost and other causes, the first analyses of No. 1 were untrustworthy, and had to be repeated.

Ammonia.—Each test was repeated two or three times so as to avoid error, and in cases of distillation, a quantity of pure water was first distilled to wash out all ammonia from the vessels, and in neither of the waters could ammonia be detected directly—*i.e.*, in the water as taken from the bottles. In first products of distillation—No. 1, faintest trace; No. 2, decided trace; No. 3, less decided trace. In no case very large; most so in No. 2.

Chlorine.—Probably as chloride of sodium—No. 1, scarcely perceptible trace; No. 2, decided, so much so as to induce rough determination, about 12 grains per gallon of chloride of sodium; No. 3, decided, but less than in No. 2.

Sodium.—Probably as chloride—No. 1, faint trace; No. 2, very decided; No. 3, decided.

Sulphuric Acid.—As probably sulphate of lime was present—No. 1, very faint trace; No. 2, decided, but not large; No. 3, about the same as No. 2.

Lime.—As for above.

Magnesia.—No. 1, scarcely perceptible; Nos. 2 and 3, rather more, about equal.

All waters gave a very slight precipitate on boiling, consisting of carbonates of lime and magnesia, with an infinitesimal trace of iron.

	5,000 grs.	70,000 grs. 1 gallon
<i>Solid contents.</i> —No. 1, first experiment,	6.1	85.4
No. 2, “ 	6.2	86.8
No. 3, “ 	6.6	92.4

These experiments were repeated, and the numbers assigned represent the mean of several experiments. They (the residues) all became blackened very much on heating, Nos. 2 and 3 especially, shewing presence of much organic matter. I have not been able to ascertain the exact quantities, but may say that 2 and 3 are very objectionable, from the presence of organic matter.

I have a letter from Dr. Baker Edwards, who analysed one of these waters and found only 8.4 grains in a gallon of 70,000 grains. That cannot have been one of the waters submitted to me, unless, in the hurry of writing, Dr. E. has placed the decimal point wrongly. The 8.4 corresponds closely with my 85.4. Can there be a mistake here?

I think the waters are all bad, as containing too much organic matter. I have had several cases of similar waters to examine in Yorkville and Toronto, in or from houses where sickness prevailed—in one case bad typhoid. They all exhibited the same properties—chlorides in excess,

magnesia, traces of ammonia, and organic matter. In one exceptional case I denounced the well water. There has been no illness to speak of in the school since the change.

Your obedient servant, HENRY H. CROFT.

P.S.—I have other confirmatory experiments going on, but send this as report on results obtained up to this time. The numbers obtained by analyses made in a hurry may not be absolutely correct; moreover, an error in 5,000 grains has to be multiplied or divided by 14 for 70,000.

H. H. C.

Suggestions with regard to the water supply :—

- 1.—That the well in the quadrangle be closed.
- 2.—That iron distributing pipes replace the wooden logs in the quadrangle.
- 3.—That, if possible, the large receiving tank be removed from its present position and located at the spring, and that the water be conveyed thence to the school reservoir through iron pipes.
- 4.—That the connection at present existing between the reservoir and the School drain (flush-pipe) be cut off, and that the reservoir be regularly cleaned and inspected.

Privies.—About the centre of the quadrangle the old latrine was situated; it was a square pit about 4 feet in depth, lined with unmortised planks, which permitted the liquid portion of the fecal matters to ooze freely into the surrounding soil. In August last the latrine was abolished, the contents were carted away, and the pit filled with earth and lime. A few feet from the latrine, between it and the well, we caused a pit to be dug to a depth of six feet, and we found the loose gravelly soil to be impregnated at various depths with organic matter. To replace the latrine, closets were constructed behind the gymnasium, but not upon a plan which could prove to be either effectual or satisfactory.

Suggestions with regard to the privies :—

- 1.—That the closets be removed from such close proximity to the gymnasium.
- 2.—As we are of opinion that for outside privies the earth system, if properly carried out, would be preferable to any other, we would suggest that every precaution be taken to secure its thorough and systematic application.

Drainage.—The old barrel drain which passed under the corner of the school and chapel was imperfect in construction, and ill adapted for the purposes required; it was removed in August and replaced by two 12-inch vitrified tile drains, one for the College and the other for the School. These drains united below the College building, and emptied into the Massawippi well out in the stream. The river below this point is consequently contaminated with sewage. The ventilation provided for these drains is insufficient and unsuitable, and in addition to the recommendations contained in the report of Messrs. Lowe and Radford, we would suggest the construction of a proper ventilating shaft in the main drain, near the

junction. We append the careful and minute report of these gentlemen, and concur in their recommendations.

Subsoil Drainage.—Owing to the faulty construction of the old barrel drain and the latrine, the soil of the quadrangle must have become contaminated with their fluid contents. In order effectually to purify this quadrangle, we would recommend that a thorough system of subsoil drainage be adopted. The present well, which probably drains a considerable portion of the quadrangle, should be utilized by carrying a tile drain from the bottom.

It is a well-known scientific fact that the atmospheric air penetrates the soil, according to its character, to an indefinite depth, and circulates in every direction with a rapidity of motion dependent upon various surrounding conditions, one of the chief of which is variation of temperature. This air is known as ground air. The temperature of the cellars and basements, especially where furnaces are used, is considerably higher in cold weather than that of the outside soil, consequently the flow of ground air will then be directed towards these cellars and basements. If the soil be contaminated in any way, so will be, to a greater or less extent, the ground air contained in it. In this way it is very probable that polluted ground air from the quadrangle is drawn up through the imperfect floor of the basement and circulated throughout the building. In order to prevent, as far as possible, the entrance of this air, we would recommend a thorough covering of the cellar and basement floors with some suitable impervious material, such as concrete or asphalt. The walls, as high as the level of the soil, should be protected in a similar manner.

It is now held by the best authorities that imperfect sanitary conditions cannot of themselves originate the typhoid poison, but when once the specific germ has gained access to a soil suitable for its development, it spreads and multiplies with great rapidity. The conditions most favorable for its development are chiefly those produced by defective drainage and ventilation. In this instance, whence the poison came, or by whom introduced, we have been unable definitely to ascertain; but whatever may have been the precise origin of the disease, the condition of the drainage and water supply during the latter part of May was most favorable for the development and diffusion of the typhoid poison. The close proximity of the well to the latrines favored the contamination of the drinking water; and to the use of this water, more than to any other single cause, we attribute the spread of the disease. In this opinion we are strengthened by the result of Professor Croft's analysis.

From the foregoing it must be evident that in order to eradicate the disease, it is absolutely necessary to secure for the Institution thorough ventilation, perfect drainage, and a pure water supply.

We cannot conclude this report without bearing our testimony to the courtesy and willing assistance rendered us at all times by the School and

College officials during the prosecution of our investigations, and to the evident desire on the part of the authorities to carry out all reasonable and necessary reforms.

We have the honor to remain,
Gentlemen,

Your obedient servants,

T. SIMPSON, M.D.

WM. OSLER, M.D.

J. C. CAMERON, M.D.

MONTREAL, 21st January, 1881.

THE ACCURACY OF CLINICAL THERMOMETERS.

Some of our readers may not be aware that they can obtain thermometers with a certificate of accuracy from the Observatory at New Haven, and can have those already in use, tested, and made correct. We therefore publish the following circular:—

“NEW HAVEN, CONN., February 1, 1881.

“The competition of business, coupled with the entire absence up to this time of any large Observatory in this country paying special attention to thermometry, to which authoritative appeal could be made, has so affected the manufacture of thermometers for medical purposes, that it seems necessary to issue a card briefly indicating the errors commonly found to exist, and to explain why, in this case, the representations of the dealers may be at fault through the want of a proper understanding of the subtle errors to which medical thermometers are liable.

“Too great a desire to economize time, good material and skilled labor has led, in the making of thermometers, to the following faults: 1. The graduation is sometimes started from one point of the scale, near the normal, and the size of the capillary tube is guessed at. No upper point being fixed by the maker, the higher graduations may be erroneous to the extent of several degrees. 2. Too much air separating the index from the column of mercury causes the index to rise with a jerky motion; air above the index forces the index down when the thermometer is taken away from the body. In some thermometers errors from this cause amount to two degrees at high temperatures. 3. New thermometers increase their readings rapidly during the first months after manufacture, so that instruments which were right when made may change their indications as much as two degrees within a year.

“It will be seen that these errors are not such as the dealer can readily detect. Even in those cases where a dealer is provided with a standard thermometer with which comparisons could be made, it is a difficult matter to determine the errors of the standard itself, and the unsupported representations of dealers and druggists therefore, though made in perfectly good faith, cannot, from the nature of the case, afford the physician satisfactory

evidence that any thermometer he may buy is not affected with errors, which in many instances under our observation have amounted to several degrees.

“Following the example of the Royal Society's Observatory at Kew, at which during the past year upwards of five thousand thermometers were examined, this Observatory has established a department to which any physician or other person may send thermometers by mail or express, and upon the payment of a small fee receive certificates of their exact errors. The facilities are such that there is no good reason why physicians should not buy their new thermometers furnished with the Yale certificate by the dealers: in those cases where no certificate is furnished, the uncertainty may amount to two degrees. It should be remembered that thermometers which the physician has had in his possession for many months are certain to have had the requisite seasoning, and therefore an old thermometer with a recent certificate is more valuable than a new one, or one about whose age there is doubt.

“The Observatory has been called upon within three months to certify about seven hundred thermometers from various parts of our country; the results of this work have demonstrated the gross inaccuracy of the cheaper clinical thermometers as commonly sold, and seem to render expedient the publication of this card calling the attention of physicians to these errors and the great difficulty of detecting them except with the appliances of an Observatory devoted to this work.

“LEONARD WALDO, *Astronomer in Charge.*”

Medical Items.

PASSED.—Thomas Wesley Mills, M.D. (McGill, 1878), passed the examinations for the qualification of L.R.C.P. on December 30th, 1880. Thomas Kelly, M.D. (McGill, 1873), passed the primary examination for M.R.C.S. on the 5th January, 1881.

—The following have been elected officers of the Ottawa Medico-Chirurgical Society for the current year: *President*, Dr. J. A. Grant; *1st Vice-President*, Dr. E. C. Malloch; *2nd Vice-President*, Dr. J. W. Whiteford; *Secretary-Treasurer*, Dr. R. W. Powell; *Council*, Drs. Bentley, Bapctic, S. Wright, Rogers, and H. P. Wright.

—Ladies with beards will be glad to hear of a remedy. Mr. Lawson Tait reports a case where the beard fell off after the application of a galvanic pessary.

—The State of Maine has a law that provides that “no man shall practice medicine without having first practised dissection;” this is followed by another law which provides that “no bodies shall be dissected except those of executed criminals;” and the door is finally locked by another law which prohibits “capital punishment.”

SPANKING AND FLOGGING AS THERAPEUTIC MEASURES.—A year or two ago Dr. I. E. Taylor showed the excellent effects to be derived from spanking the child and flogging the mother (with a wet towel), in some of the accidents of parturition. Dr. Heurot, of Paris, has found the same measure admirable as a remedy in hysterical spasms. We recollect that, as a small boy, we took some doses of this same preparation for certain emotional diseases, such as slight kleptomania (toward apples), acute ira, and disorder of the organs of speech (prophania); in these and similar disorders, we join in giving it our fullest recommendation.

—*Philadelphia Med. & Surg. Reporter.*

—The “Kyrle Society” of London has lately painted and decorated some wards in the Westminster Hospital in the modern style of art, and the general effect is said to be most delightful. It is understood to be the intention of the Society to visit the different hospitals and paint the walls and ceilings of the various wards in a way calculated to have a refining influence upon the tastes of the poor sufferers.

—The editor of an American journal, wishing, recently, to show up a *confrère* as far behind the times, can think of nothing better than to say that “the doctor does not seem to be aware of the fact—familiar to all the rest of the medical world, at least in America—that the Listerian bubble has burst.” Hard on the Listerites.

—We cut the following from the remarks of Mr. Clement Lucas in the debate on Rickets at Pathological Society of London:—“Children under nine months, suffering from rickets, will almost invariably be found to be bottle-fed; whereas children suffering from rickets at sixteen or eighteen months will often be found still hanging to the mother’s nipple. In either case

the diet is injurious, and I will undertake to produce rickets in any child under three years of age that I may be allowed to feed improperly. As regards which child is most frequently attacked by rickets, my experience, in accord with what Sir Wm. Jenner said on the last occasion, was that the eldest child of the well-to-do and the later children of the poor suffer most. The eldest child of the rich suffers because it is an experimental child, and the parents learn by practicing upon it how best to feed those that follow.

—John Wyeth & Brother, of Philadelphia, have lately introduced a new compressed pill to their already large list. It consists of salicylic acid in combination with cinchonidia, and is recommended for use in the treatment of neuralgic and rheumatic affections. It is claimed for this new pill that, as the acid is combined with a cinchona alkaloid, it therefore increases the remedial action by the addition of tonic stimulant and anti-periodic properties.

75 LEVER STREET, PICCADILLY, MANCHESTER.

I have used your Maltine pretty extensively since its introduction, and am glad to state that I have found it exceedingly useful; particularly in cases where cod liver oil has not agreed, have I found the Maltine with Beef and Iron most valuable.

J. S. FLETCHER, M D., M.R.C.S.

January 16, 1879.

Since 1878, our sales of Beef, Iron and Wine have quite doubled in amount, owing to the appreciation by Physicians of our claim that our preparation really deserves the preference on account of PURITY OF THE WINE, THE FRESH BEEF USED, together with the fact that the IRON is held in SOLUTION, in condition to insure ready assimilation. If Physicians will test it by simple taste, they will find an entire freedom from the mawkishness that must characterize it if made from Extract of Beef, resulting in a disagreement with the delicate and sensitive stomachs of the class of patients for whom this combination is specially indicated. We have no hesitation in stating, that as a Tonic, Stimulant and Roborant, Beef, Iron and Wine, properly prepared, has proven more uniformly beneficial, than any combination we have ever known.

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