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CARCINOMA OF THE BILE PAPILLA.

BY

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Although cases of cancer of the bile papilla have been accumulating fairly rapidly in literature, the affection must still be considered of somewhat unusual occurrence. Moreover as each case presents certain features of its own, especially regarding its epithelial origin, I considered it a sufficiently interesting and profitable study to record the following two cases.

Before passing on, I wish to express my indebtedness to Dr. Martin and Dr. Bell, under whose service the patients were admitted to the Royal Victoria Hospital, for their permission and use of the clinical notes, and to Dr. Adami for the protocols of the post-mortem examinations.

CASE I.—V. R., male, æt 62, was admitted to the Royal Victoria Hospital under Dr. Martin, January 3rd, 1903. Patient was born in England and came to Canada at the age of 48. He worked as a mason until six years ago; since then he has been a gardener. There was a history of specific disease at the age of 18, and also a history of alcoholism. Family history was negative.

Present Illness.—On July 1st, 1902, patient noticed some enlargement of the abdomen, which went on until December, when he had some pain over the liver, accompanied by constipation. By January he was somewhat jaundiced. He had not worked for three weeks previous to admission to hospital, and during this time food caused some nausea and vomiting. Patient noticed that the stools were foul and "like putty." For the last two months the urine has been dark coloured and in this time he estimated he had lost twenty-five pounds.

Condition on admission.—The patient was somewhat emaciated, the muscles were small, the skin markedly jaundiced and dry. His intel-

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ligerence was fair though at times dull and listless and occasionally irrational. There was dull pain all over the region of the liver, which was enlarged, its lower edge reaching as far as the navel. There was a condition of general arterial sclerosis, and a systolic murmur was heard at the apex with an increased aortic second sound. The abdomen was full, with some tenderness in the epigastrium. The urine was a dark amber colour, alkaline in reaction and showed the presence of bile. His blood count showed 3,470,000 red cells and 20,800 white cells with 50 per cent. hæmoglobin present. While he was in the hospital the jaundice steadily increased, and with it the patient became more stuporous. He was steadily on the downhill and died three weeks after admission.

Autopsy.—Body was that of an elderly, emaciated man, with skin of an intense yellow colour. There were slight external piles. The lungs showed a hypostatic congestion and on section were of a greenish yellow tinge due to bile staining. There was no sign of tuberculosis.

The pericardial cavity contained bile stained fluid. The heart was small, and its coronary arteries showed evidence of arteriosclerosis. The aorta presented some small patches of fatty degeneration. The viscera of the abdomen had a distinct yellow colour, while the cavity contained about 10 c.c. of yellow fluid with abundant lymph flakes. Some loose plastic adhesions were found between the coils of small intestine. The edge of the liver extended some 6 c.m. below the costal margin. The stomach walls were thin, of a slatey grey colour, but otherwise normal. The duodenum was fairly capacious and from without nothing abnormal could be detected. On opening it, the bile papilla was seen projecting as a firm even mass into the lumen of the bowel. A probe passed into the papilla was arrested, 1 c.m. from the orifice, and brought away with it some puriform material, which under the microscope consisted of columnar cells, and here and there collections of polymorphous cells of large size, closely resembling cancer cells. The remaining portion of the intestinal tract was normal. The liver was large, its surface smooth, except for a few sessile nodular projections over the upper anterior part of the left lobe, resembling nodular hypertrophy. The organ was distinctly soft and on section bile stained. Dilatation of the bile ducts was found everywhere and localized areas of necrosis could be seen along these. The larger bile ducts in the liver were the size of a lead pencil and contained fluid bile, while the common bile duct admitted the thumb. This distention of the duct was followed by a tight constriction immediately as this passed into the head of the pancreas. At autopsy it was impossible to pass a probe through the duct to the orifice on the papilla, but on dissecting the specimen

it was found that the obstruction was due to pressure and kinking of the duct, rather than the invasion of the growth into the lumen. The pancreas showed marked atrophy and general dilatation of the main duct to the diameter of a lead pencil. A probe passed from the pancreatic duct was similarly arrested in the ampulla. The pancreatic lobules were surrounded by strands of firm connective tissue, and about the head there was some fat necrosis. No secondary growths were found and the remaining organs were normal.

Anatomical Diagnosis.—Columnar celled adeno-carcinoma of the Ampulla of Vater; obstruction with dilatation of the biliary and pancreatic ducts, icterus, acute plastic peritonitis, right hypostatic pneumonia, right old pleural adhesions.

CASE II.—J. M., at 40. Admitted to the Royal Victoria Hospital under Dr. Bell on September 24th, 1903. There was a history of typhoid fever eight years ago, and also of the use of alcohol to a moderate extent. Patient worked in the lumber camps during the winter, and was in perfect health until he returned in March, when he complained of a dull pain in the back. He was admitted to the hospital in June but remained only 18 days, with little improvement. The pain continued and made him feel weak. His appetite began to fail and he lost some thirty pounds between March and September. A week before admission to the hospital he vomited four or five times.

On admission to hospital, patient was poorly nourished with well developed but flabby muscles. Skin was dry and harsh with a yellow tinge. The conjunctivæ were distinctly yellow. A dull aching pain in the lumbar region, chiefly on the left side, radiated to the front of the abdomen and chest. As there was some tenderness over the umbilical region a thorough examination could not be carried out, but no mass could ever be felt. His appetite was poor, while he suffered from nausea with the sensation of weight in the stomach. He was constipated and the fæces were pale. The urine contained bile, but no albumen. The red blood cells numbered 3,910,000. While in the hospital the jaundice kept progressively increasing. He complained constantly of pain in the abdomen but could give no definite location of greatest intensity. An exploratory laparotomy was undertaken in October with the resulting diagnosis of malignancy situated about the head of the pancreas. Nine days after this, during a fit of coughing, the wound broke open, and another incision was made and the gall bladder was stitched to the edge of the second wound and drained. The patient continued getting weaker and died on November 12th, 1903.

Autopsy.—Body that of a tall, emaciated man, with a yellow colour to the skin. Two wounds of recent operation were situated over the

site of the gall bladder and in the median line below the umbilicus respectively.

The lungs were healthy looking, except the right lower lobe, which showed evidence of terminal pneumonia and also a cluster of small abscesses along the anterior margin of this lung containing streptococci. The heart was small but showed nothing special. In the abdomen the small intestine was adherent to the recent median wound, and was covered with flakes of slimy lymph which yielded streptococci. There were about 350 c.c. of bile stained fluid in the abdominal cavity. In the duodenum, the site of the bile papilla was the seat of a shaggy necrotic ulcer measuring 3 x 2 c.m., into which the bile duct opened apparently without difficulty. The pancreatic duct opened 4 c.m. below the ulcer and admitted a probe readily. The common bile duct was tortuous, but a probe could be forced through it from above. The edges of the ulcer were somewhat undermined, leaving a continuous tag of mucosa overlapping it. The mucosa seemed uninfiltrated by any growth and was soft right to the edge of the ulcer. The liver was rather small, of a dark green colour with a deeper pigmentation in the centre of the lobules, giving the organ a dark green nutmeg appearance. The organ was firm with a smooth surface. Edges of the right lobe were sharp showing evidence of atrophy. The gall bladder was partially distended with dark fluid bile while the common bile duct was dilated and tortuous, and was constricted by several infiltrated glands along its course. The duct was patent as it passed through the duodenal ulcer, which appeared to be of the nature of a broken down primary cancer of the papilla. The common bile duct showed no involvement in the new growth, except at the lower end. The pancreas was relatively larger than normal, firm and fibroid, but at no point did it show the presence of secondary growth. The mesenteric glands in this neighbourhood and at the root of the mesentery were cedematous, but only a few along the bile duct had the appearance of being involved in secondaries. With the exception of having canalized thrombi in the iliac veins, and a left-sided inferior vena cava to the height of the left supra renal vein, the other organs were normal.

Anatomical diagnosis.—Cancer of the bile papilla with ulceration; secondary growths in the periportal lymph glands; obstruction and dilatation of common bile duct; icterus; aberrant orifice of main pancreatic duct; subacute purulent peritonitis; abscesses of lower lobe of right lung; aberrant situation of inferior vena cava; old canalized thrombosis of the iliac and pelvic veins; chronic interstitial nephritis with recent parenchymatous nephritis.

Before going on to the discussion of the pathological findings along with the microscopical examination of these cases it might be well to briefly run over the histology of the bile papilla as we normally find it.

Normal Histology.—The bile papilla represents the puckered up mucous membrane of the duodenum, where the bile duct opens in common with the pancreatic duct into the lumen of the intestine. It is situated on the left side, about the middle of the second portion of the duodenum, and projects slightly above the surface of the mucosa. Frequently on opening the duodenum, it escapes detection and is found only by passing a probe through it from the common bile duct. Normally the papilla is soft and is not unlike one of the valvulae conniventes from which it cannot be distinguished by the feel of the finger. However, when it becomes involved in a new growth, or its lumen is occluded by a gall stone, it stands out as a hard mass into the lumen of the bowel.

The structure of the papilla is essentially that of the duodenum with the ampulla of Vater passing through its centre. The duodenal surface is covered by an epithelial layer continuous with that of the intestine. Villi are present, as are also the crypts of Lieberkühn, both of which are lined with columnar cells. The columnar epithelium on the villi does not differ from that found in the crypts, the object of both being to increase the surface area of the intestine. The muscularis mucosae surrounds the papilla like an orbicularis muscle, and in a similar manner also surrounds the ducts of Brunner's glands, controlling their orifices with a valve-like action. The submucosa consists of firm connective tissue with glands which are found only in the duodenum. These duodenal, or Brunner's glands as they are called, are tubular racemose glands, whose branchings are coiled in the uppermost layer of the submucosa, while their ducts pass through the muscularis mucosae to reach the intestinal surface between the villi. The ducts may or may not open into Lieberkühn's crypts. The lining cells of these glands are cylindrical, merging into a more cubical character as the duct passes through the muscularis mucosae.

Brunner's glands are described as being present only in the upper part of the duodenum. I have found them present in and about the bile papilla in all of four cases I have examined. The muscularis and serosa of the duodenum do not differ from those found in the remaining part of the small intestine.

The ampulla of Vater, the small recess in the papilla, into which open the common bile duct and the pancreatic duct, measures 0.5 c.m. in length. The lining of the ampulla is continuous with, and does not differ from that of the bile duct, both being columnar celled.

Anatomical variations of the ampulla are not uncommon, and malignant growths complicating the anomalies set up a different train of symptoms for each. Thus at times we find the bile duct and Wirsung's duct unite at some distance from the papilla, converting the ampulla into a long tube; or else a septum exists between the two ducts throughout their course through the ampulla, when each opens by a separate orifice on the top of the papilla. Occasionally too, the ducts open into the duodenum at some distance from each other. In this case the bile duct opens at the normally situated papilla.

Microscopical Examination of the reported cases.—In the first case cited the microscopical examination showed the tumour to extend laterally from the epithelium lining the ampulla, for a distance of not more than one centimetre, and to infiltrate the muscularis of the bowel by solid columns of cells. The free surface of the tumour within the ampulla showed a partial degeneration and softening which accounts for the epithelial debris removed with the probe during the *post mortem* examination. There was very little change, if any, noticed on the duodenal surface of the papilla, other than a slight inflammatory condition. Brunner's glands could not be found involved—in fact, the growth did not extend as close to the surface as these glands, but was lying rather closer to the head of the pancreas where the cells became more spheroidal. No part of the pancreas was found to show any infiltration of the aberrant tissue, while the pancreatic duct was likewise free. The neighbouring lymph glands showed no secondaries, nor were any found in the liver, though in the latter organ there was an overgrowth of the fibrous tissue along the portal systems and an atrophied condition of the liver cells. The tumour is a primary cancer of the ampulla.

In the second case, sections taken from the region of the papilla, showed the structure of an adenocarcinoma. Near the surface it was more of an adenomatous character than is found in the deeper parts where the alveoli contain large multinuclear cells. In the sections the growth can be traced as extensions from the duodenal glands (Brunner's), leaving the muscularis unbroken except where the ulceration has taken place. The rapidly growing neoplasm has led to softening with the consequent necrosis of the papilla, similar to the ulceration of the superficial structures in cancer of the breast. Even underneath the ulcerated mucosa, partially preserved cancerous masses similar to the proliferated Brunner's glands at the border, were found. I consider the case clearly one of primary cancer of the duodenal gland. There was a diffuse small celled infiltration of the connective tissue; while the cells immediately lining the alveoli were columnar. Below these

infiltrating glands, numerous solid nests of epithelial cells were lying between the muscle bundles. The cells are no longer of the cylindrical character, but rather spheroidal or polymorphous, with large round nuclei. Within this area are alveoli in whose centre mucoid degeneration has set in leaving only the outer rim of cancerous cells. A few of the outermost lobules of the head of the pancreas showed some infiltration of the tumour, but clearly differentiated from the parenchyma of the organ. Secondary metastases were present in the lymph glands of the lesser omentum, as far up as the hilus of the liver, but no secondaries were found in the liver itself. The cells of the metastases were larger and more spheroidal than at the primary seat.



CASE II.—Section of bile papilla showing proliferation beginning in the duodenal glands at site of ulceration.

Malignant growths are by no means rare in the intestinal tract. Of these, primary carcinoma decreases in frequency from the rectum upwards until the duodenum is reached, when it again increases in frequency as we approach the stomach. Just what percentage of primary tumours of the intestine is confined to the duodenum is difficult to say; the Vienna tables places it at about 1 per cent., the Berlin tables give

a higher figure. Later statistics place it as high as 10 per cent. (Heulin's table).

Of primary cancer of the duodenum over 50 per cent. are confined to the second portion about the bile papilla. In 45 reported cases of primary disease in the duodenum in which the localization of the tumour was definitely given, I find that 25 per cent. had their origin in the first part of the duodenum, 63 per cent. in the second part, and 12 per cent. in the third part. Of those beginning in the second portion, 76 per cent. involved the bile papilla.

The bile papilla is a structure in which we may have cancer arising from five different sources, and, as in each, the epithelium is either columnar or cubical celled, the cells of the aberrant growths can only with difficulty be distinguished as belonging to this or that source. Rolleston describes carcinoma of the ampulla arising from four different sources, and, as the ampulla is an integral part of the papilla, malignant growths of the ampulla are identical with those considered under the papilla. Thus, in the ampulla, Rolleston describes cancer arising from (1) the common bile duct, (2) the pancreatic duct (Wirsung's), (3) the epithelial lining of the ampulla, and lastly, from (4) the mucosa of the duodenum immediately surrounding. To this must be added a fifth origin of epithelial tumours of the papilla, namely, those arising from the duodenal or Brunner's glands. They have all been called carcinoma of the ampulla of Vater, and rightly so, as the invading growth soon involves it in extension, giving rise to objective symptoms of a tumour in this region. It is only in the few cases in which death has resulted before marked invasion has taken place into the adjoining tissues that a definite decision regarding the exact epithelial site of origin can be arrived at.

Authentic cases of cancer primarily arising from the ampullary epithelium are few. Rolleston (1901) after excluding all doubtful cases, finds only seven in literature, which along with the first of the above cases gives us eight reported up to the present. It is interesting to note that Halsted operated successfully on one of the seven cases, though he admits having made the fatal mistake in removing a portion of the growth in situ for microscopic examination, to which he attributes the cause of secondaries occurring some months later.

That Brunner's glands may be involved in malignant growth without involving the epithelial lining, or crypts of the duodenum, I wish to emphasize, as is seen in the histological findings in the second case. In it, along with the anomaly in which the pancreatic duct and the bile duct open by separate orifices on the duodenal mucosa, existed a carcinoma of the papilla springing from Brunner's glands. The malignant

growth was situated at the biliary orifice and can hardly be classed as a cancer of the ampulla. There was no ampulla, but the location of the tumour was that of a normally placed one. The course of the pancreatic duct, unassociated with the bile duct, removed all suspicion of extension from it or the pancreas. As it happened, in this case the Brunner's glands involved were those immediately surrounding the papilla and invasion took place into the deeper structures and about the bile duct. This invasion was sufficient through pressure to obstruct the duct, with the consequent jaundice and its complications. As the pancreatic duct was uninvolved there was no retention of pancreatic secretion and hence digestion was not markedly disturbed for some time. At autopsy the carcinoma had progressed to ulceration which destroyed the papilla.

The first of these cases was one of true carcinoma of the ampulla. It is indeed remarkable how small sized a tumour, springing from the lining of this recess, may lead to a fatal termination. This invasion, though not extensive macroscopically, was sufficient to cut off the lumen completely. Following the obstruction of the bile and pancreatic fluid the ducts in both the liver and pancreas were greatly dilated. In looking at the papilla from the duodenal surface the appearance was that described by Rolleston as seen in primary carcinoma of the ampulla. The mouth of the papilla was gaping and within it could be seen a small tumour mass. A vertical section through the papilla showed the bile and pancreatic ducts to be intact, and the neoplasm to exist below the duodenal mucosa and above the head of the pancreas.

In those cases in which the bile duct and pancreatic duct meet at some distance from the papillary orifice it can readily be seen that a cancer arising in the ampulla would be recognized without difficulty as having its origin in this region, but such a case has, to my knowledge, not been met with.

Regarding the symptoms worthy of confidence in the diagnosis of duodenal ulcer, Whittier places foremost those arising out of obstruction of the common bile duct, and the effects following the lessening in calibre of the intestine. Now, in the reported cases of carcinoma of the papilla, there are few in which the growth beginning in the papilla spread about the circumference of the bowel. Nearly all cases had a fatal termination before this stage was reached. The infiltrated papilla projects into the lumen of the intestine, and here bears the brunt of the irritation from the intestinal contents, with a diminished blood supply ulceration occurs early, with a consequence that blood may appear in the dejecta and vomitus. Obstruction of the bowel thus plays little part in the clinical history of cancer of the papilla.

Jaundice is the most constant feature, and when present is progressive.

With the obstruction of the bile the stools are clay-coloured and offensive, the gall bladder is distended and the liver enlarged and tender. The early symptoms of indigestion are chiefly referable to the absence of bile from the intestine. If the obstruction also involves the pancreatic duct, the indigestion is exaggerated and the pain and tenderness over the pancreas is much increased.

Vomiting is an early and fairly constant symptom, but presents variable characters. At the beginning, vomiting usually sets in a short time after meals and is due to an increased irritability of the duodenal mucosa. Later on it becomes more frequent, with no relation to food taken and showing complete absence of bile.

Pain is an uncertain and unreliable feature, being due to varying causes. The pain of ulceration, flatulence and occlusion of the bile duct may all be present at the same time and so be of no service in basing a diagnosis. During ulceration and obstruction of the papilla, periodical lancinating pains are present, not unlike those seen in biliary colic. Some even go so far as to say that a number of cases have their origin in the presence of an obstructed stone in the ampulla of Vater. No such close relationship between gall stones and cancer of the papilla exists as is found with malignant disease of the gall bladder.

The presence of a tumour is rarely discoverable on account of the position of the second portion of the duodenum. Moreover, as has been said, a tumour involving the papilla is usually so small that its presence, even in a favourable position, would readily escape detection. Should a tumour be felt, it is most likely to be mistaken for the head of the pancreas.

Emaciation is rapid and fever is seldom present.

It is the exception rather than the rule to find extensive metastasis, and it is seldom that other than a few lymph glands in the immediate neighbourhood become infiltrated. The chances for a septic cholangitis in the dilated bile ducts is great.

The duration of the majority of the cases on record is from five weeks to six months after the first symptoms appear, and up to the present, Halsted has been the only one to attempt a radical operation.

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THE CLIMATE OF CALGARY IN THE TREATMENT OF TUBERCULOSIS,

BY

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The question of climate in the treatment of tuberculosis, pulmonary tuberculosis especially, is of widespread interest and at the same time the subject of such varied views that its consideration seems worthy of attention.

Discussing first, the main principles of climate, both at sea level and higher altitudes, the bearing of these facts on the treatment of tuberculosis in the Northwest, of which Calgary is the best district, will be considered, and will show the value of climate in this disease especially, as well as in others.

The word climate or Greek "klima", derived from the verb "klinein" to slope or incline, was originally applied by the ancients to signify that obliquity of the earth's surface with respect to the horizon, from which results the inequality of day and night. The early astronomer and geographer Ptolemy, about A.D., 140, divided the earth's surface into a series of parallel climates, or zones, which differed from each other by the same movement in length, namely 15 minutes of the midsummer day. Again, Edrisi or Aldrisi, the most eminent of the Arabian geographers who flourished in the 12th century, in his magnum opus: "The going out of a curious man to explore the regions of the globe, its provinces, islands, cities and their dimensions and situation." divided the world into seven climates, commencing at the equinoctial line and extending northward to the limit at which the earth was supposed to be rendered uninhabitable by cold, each climate being subdivided by perpendicular lines into eleven equal parts, beginning with the West Coast of Africa, and ending with the East Coast of Asia. The author takes these subdivisions one by one, from west to east, and south to north, and describes their characteristics.

It may be easily seen that these climates would have different atmospheric conditions according to their situation, since the power of the sun's rays, perpendicular to the earth at the equator, becomes less towards the north as they become more oblique. And so when the division of the earth's surface into climates was abandoned, for the more scientific partition by the lines of latitude and longitude, the term "climate" though remaining, had another significance, and denoted not the earth's slope or inclination, but the atmospheric conditions of heat, moisture, winds, rain, clouds and electricity, the variations of which depend, to a certain extent, on this inclination or slope. Climate is quite distinct from weather, since it is possible to have very bad weather, the particular condition,

in a place which has an excellent climate, the general condition. By a change of weather is meant such changes of the above conditions as occur daily, and since these changes are dependent on and intimately bound up with atmospheric pressure, the latter, as indicated by the barometer, is the key to the weather.

Climate may be defined as the average condition, meaning thereby, not merely the general average of all values of temperature, wind rainfalls, etc., but the extreme values and the averages of the extreme values for long periods of time. Apart from average climates, there are deviations such as extremes of cold or heat, or of extreme humidity or dryness, such as the extreme cold experienced throughout Canada, more especially Eastern Canada, during the past winter, or the extraordinary fall of snow in May, last year, in Alberta. There may be liability to storms of wind, thunderstorms, fogs, hail storms etc., but these exceptions do not alter a climate, since they are due to cyclonic or anti-cyclonic disturbances of infrequent and irregular occurrence.

Change of climate does occur, but is much more gradual than change of weather, and due to more important and lasting causes. In the past, gradual or sudden changes of the solar system, or in the earth which is dependent on the former, have caused very different climates, as shown by geological evidence, while more recent and more easily traced changes are due to human agency. The removal of forests, and the laying bare to the sun and wind of areas previously kept cool and damp, or protected from tempests, have rendered large areas of country dry and arid, as in the desert countries bordering on the Mediterranean. Cultivation and drainage, since these rapidly remove rainfall, and therefore, lessen evaporation, which in turn lessens rainfall, gradually raise the temperature of a country. This has happened in Manitoba, where since cultivation has become more general summer frosts are almost unknown, while formerly they were a great drawback to the wheat farmers. By transforming moors and bogs into cultivated land, and clothing hillsides with trees, rainfall may be increased, and in low countries malaria may be lessened or abolished with the removal of sloughs and stagnant pools in which mosquitos deposit their eggs.

It remains true, despite extraordinary incidents and changes just mentioned that climate, the average climate, is fairly constant in any particular area or country. The variations of climate in different parts of the world, however, are infinite, consisting as they do in different combinations and proportions of wind, temperature, moisture and rainfall at different distances from the equator, from the sea—the chief source of rain—or above the sea; a potent factor is the distance from the equator, since, in proportion to this distance is the obliquity of the sun's

rays, and the absorption of heat by the atmosphere is again in proportion to the length of their path. In general, one-half of the heat received by the illuminated atmosphere is absorbed by it leaving the other half to reach the surface of the earth, if there be no intercepting clouds.

If the earth's surface was uniform, the climates, into which Ptolemy and Edrisi divided it, would show equal differences of heat and sunlight; but its unequal division between land and water, water being greatly in preponderance, brings about a subversion of the ancient solar climates.

Aqueous vapour, in the diverse ways in which, in different localities, it is distributed through the hours of the day, plays the most important part in giving to the different regions of the globe their infinitely diversified climates. The temperature of the air at the surface of both land and ocean and throughout the atmosphere, as modified by winds and aqueous vapour, is the fundamental element in climatology; therefore, temperature, as exhibited by means of isotherms, or lines of equal temperature, drawn on charts of the globe and passing through places having the same temperature, although they may be of quite different latitude, longitude and altitude, is of the greatest use as a guide for the traveller, the agriculturist and the invalid.

Winds may be regarded as caused directly by differences of atmospheric pressure, just as the flow of rivers is caused by differences of level—the motion of the air and the motion of the water are both referable to gravitation. Wind blows from a region of higher towards a region of lower pressure—from where there is a surplus to where there is a deficiency. Let there be produced a concentration of aqueous vapour over a particular region, or let one region have a higher temperature than what prevails around it, then, from the different densities and consequently different pressures thereby produced, movements of the air or winds set in to restore equilibrium. Again, if there be a region of warmer air, this air will ascend and colder air will flow in to take its place; or if one region be more highly charged with aqueous vapour, and therefore lighter the air will ascend and drier air come down, or in, to take its place. Since some of the vapour as it ascends will be condensed into clouds or rain, heat will be disengaged and equilibrium still further disturbed. From such causes originate gales, storms, tempests, hurricanes, cyclones, etc., of which the most marked examples are experienced on or near the ocean, owing to the difference of temperature between sea and land; also inland, in the vicinity of great lakes or inland oceans, and in the great inland valleys and plains where the necessary differences of temperature and pressure frequently occur, from the great columns of hot air, formed over these vast districts in hot weather, ascending and cold air rushing in from regions of higher pressure to take their place.

The ocean is the chief source of rainfall, and to prevailing winds, the carriers of this rainfall, we look for its explanation, the principles being as follows.—1. There is a large rainfall when a wind has traversed a considerable extent of ocean. 2. There is increased rainfall if winds advance into colder regions, with increased precipitation when ascending a range of mountains, and decreased precipitation when descending on the opposite side. 3. Winds coming from the ocean, but not traversing a considerable extent of it do not increase the rainfall. 4. Winds may traverse a considerable extent of ocean, but if proceeding into lower latitudes or warmer regions cause little rainfall, thus the summer climates of California, Southern Europe and Northern Africa have little rainfall.

Climates are, therefore, divided into marine and inland, characterised respectively as moist and dry, from the relative proportion of aqueous vapour, and it is the dryness of the inland climates, especially of inland regions at higher altitudes—of which the chief characteristic is their low humidity—which makes them so beneficial to the sufferers from Tuberculosis. The effect of winds and temperature owing to this difference in humidity at sea level and higher altitudes is very different. A wind charged with aqueous vapour being much more trying and feeling much colder than a less humid air, all winds from the ocean and great lakes are more perceptible and more to be feared from a health point of view. The same applies to the cold air and mists which form at night in valleys owing to the rapid sinking of the air, as it cools in contact with the slopes—themselves cooled by radiation, and its increase in humidity as its density increases.

The gaseous envelope around the earth consists of two atmospheres, a dry constant air composed of Nitrogen and Oxygen; and an aqueous atmosphere, or Hydrogen and Oxygen in gaseous state, which is inconstant, since it does not remain in gaseous state, but is constantly changing by evaporation, condensation and change of temperature; also more aqueous vapour is being constantly added from the surfaces of water, snow, ice, plants, trees and moist surfaces generally. Evaporation increases with temperature because the capacity of the air for vapour is thereby increased. Air can contain only a certain amount of vapour, when saturated evaporation ceases. During a wind, since fresh air is constantly taking up moisture, evaporation is more rapid. As air expands its temperature falls, and it continues to approach nearer saturation until condensation occurs, and dew point is reached. Thus ascending currents of air become moister until there is formation of clouds, rain, snow, hail, etc., and conversely, descending currents of air, or air becoming denser, become drier.

This varying amount of aqueous vapour is measured as humidity. Absolute humidity, accurately estimated by the elastic force of vapour, is the absolute amount of moisture in a given quantity of air at the place of observation. Relative humidity, which is that referred to, usually, in weather observations, means the degree of approach to saturation of the air with moisture, and ranges from 0 to 100 per cent., from complete absence of moisture to complete saturation—0 per cent. R. H., never occurs, since even 10 per cent. is of rare occurrence in such arid regions as the deserts of Arabia.

The great significance of humidity is in its relation to the diathermancy of the air and to solar radiation. Dry air would allow the sun's rays of the heat to pass through with, at most, only a slight increase to its temperature therefrom. Let, however, a little aqueous vapour be added, and a partial obstruction to the passage of heat is offered, and the temperature of the mixture, or common air, is sensibly raised. Hence, the less the humidity, other conditions being equal, the more are the effects of radiation felt, the greater is the heat by day and the cold at night. The mere amount of vapour does not determine the degree of radiation, but it is this amount together with the temperature, or in other words absolute and relative humidity taken together determine the heating power of the sun, and the degree of cold produced by radiation. The great variations of temperature, in 24 hours, in dry climates are the result of low humidity, absolute and relative, and this is why these extremes are of less relative importance than in humid climates at lower level, where they would be much more sensible, and indeed, would be severe. Maximum humidity prevails from midnight to 4 a.m., or when temperature is at its minimum; and minimum humidity about 2 p.m., or when temperature is at its maximum, that is to say, the curve of humidity is inverse or opposite to that of temperature.

It is this factor of humidity in connection with temperature which makes it impossible to get any true conception of climate from a comparison of temperature charts alone. For instance, the annual mean temperature of Toronto is 45° and that of Calgary is 35°, and many people in the East and in England suppose, therefore, that Calgary is the colder climate. How different is the real state of things. Owing to the low humidity, and the greater diathermancy of the air in Calgary, the day temperatures are comparatively high; not only in summer but throughout the winter, and night temperatures low; therefore the mean is lower than in Toronto where the difference in day and night temperature is very much less. Again, situated as it is in the Chinook belt, continually warmed by the mild Chinook winds in winter, so that

snow rarely falls more than 2 or 3 inches, remaining only a few days, and good sleighing can rarely ever be obtained; Calgary has a mild enjoyable winter where cricket and tennis are usually played until January or February; and after a little cold in February and beginning of March, spring begins and by April is often well advanced as evidenced by the green prairie; the ploughing and seeding and the appearance of spring flowers. With strong insolation the days are always warm and pleasant, except for an occasional cold spell after a snow fall, throughout the winter. Although the nights are cold at times in the winter, this is an additional advantage in the summer when the evenings are always cool and bracing and even in the day time a pleasant coolness is always obtainable in the shade. The beauty and vigour of the climate all the year round must be experienced to be appreciated, and they depend on low humidity and quantities of sunshine.

The Chinook wind so often mentioned in connection with the Northwest is a remarkable balmy wind tempering the heat in summer and replacing the cold in winter causing snow and ice to disappear with marvellous rapidity, and licking it up like magic in a few hours. The explanations of the cause of the Chinook have been many, but two only, merit consideration; one, that it blows from over the warm Japanese Gulf stream across British Columbia and the Rockies to Alberta; the other, that it results from the removal of moisture from winds traversing the range as they ascend, leaving them drier and warmer to descend on the Eastern prairie. Moreover it is not necessary to assume that this wind has started from the Western side of the range, since over the Rockies is an area of high pressure in winter, whence, air descending having lost its moisture from condensation, is necessarily dry and warm. This same phenomenon, of a dry warm wind, may often be seen in the neighbourhood of a storm over regions at lower levels, both land and ocean, when moist air in front, after being carried up to rain or snow level and deprived of its moisture, descends drier and warmer on the opposite side of the region of central high pressure. Air may be supposed to have a potential temperature, namely, the temperature which two masses of air in different parts of the atmosphere, having different pressures, temperatures and amounts of moisture, would have, if brought to the same pressure. In an ascending mass of air, from the beginning of condensation of its moisture onwards, the potential temperature steadily increases by reason of the loss of this moisture, but in a descending mass of air the p.t., remains constant at the maximum value attained by it at the highest point in its previous path. This seems the truer and more scientific explanation of the Chinook wind. Whatever its explanation, its quality and its occurrence are very mani-

fest in S. Alberta and its effect on the climate is proved on the range and the cattle as well as on man and his health and spirits.

The general characteristics of climates at sea level and lower altitudes depend on a greater percentage of moisture, higher barometric pressure and higher winter temperature. It is the presence of the moisture which makes the winds so cutting, the cold so perceptible in winter, and it is again the high relative humidity which renders the summer heat so oppressive. Temperature unnoticeable or borne with ease in drier air is exceedingly trying in lower altitudes. It often feels colder at a few degrees below freezing in New York or Montreal than when the thermometer records 10° or 20° below zero in Alberta. Again, in New York or Montreal at a temperature of 80° to 90° in the shade, heat, owing to the humidity, seems unbearable while at the same or higher temperatures in Calgary there is no discomfort. Sunstrokes, heat strokes and thermic fever are of constant occurrence at these temperatures in Eastern provinces, especially in the larger cities, yet, despite the stronger insolation at higher altitudes, sunstroke, etc., are practically unknown. While the Pacific coast, owing to the warm gulf stream which washes its shore, does not have the cold winters of the Atlantic coast, the high humidity of its atmosphere renders it a most unfit climate for the tuberculous patient. There is a high rainfall, and evaporation being slow where humidity is high, there results a long continuance of most oppressive air. At higher altitudes such as Calgary, where the annual rainfall is only one-third or one-fourth of that at the coast, when it does rain the relative humidity is little raised, as the dry air admits of very rapid evaporation, aqueous vapour ascends, and the close oppressive feeling of a moisture laden atmosphere is not experienced.

Calgary climate is remarkable for its dry rarified air; quantities of sunshine—since less moisture means less clouds and less rain or snow—and a large proportion of cloudless days. Few are the days in the year when the sun is not in evidence for the greater part of the day, for the most part the sun shines all day long. The results of this climate on the tired worn out tuberculous patients or nervous invalid are wonderful to see, and the rapidity with which they regain physical strength and nervous power, with a corresponding improvement in their mental feelings and outlook, is marvellous.

Dr. P. H. Bryce, in "The Climates and Health Resorts of Canada," says:—"Whatever the physiological explanation, it is certain that the effects of the climatic qualities are to so promote nutrition and reconstruction of tissue that tuberculous cattle transported thereto from the

lower levels, and moister climates of old Canada, have rapidly regained flesh and remained for years in seemingly perfect health, while many a consumptive has found that in this climate his disease has been stayed and in not a few instances recovery has taken place. Once let the invalid so improve as to be able to ride his broncho over these measureless plains and enjoy the exercise while breathing the rarefied, ozonized air of absolute purity, and his recovery is almost assured. And it is just as certain, and he ought to know it, in order that his cure may be permanent, that continued residence in the climate for perhaps many years is essential, and indeed, in few places can existence become a more real pleasure than in this life of perfect freedom where he is in touch with nature in her everchanging moods."

Apart from its low density and rarefied condition the atmosphere of the Northwest is remarkable for its purity. It contains little organic dust, has a rarity of micro-organisms, and the actinic rays, which exert greater bactericidal powers, are particularly abundant as shown by rapid action of light on photographic plates. While daily winds are common, owing to the rapid change in density from strong insolation and the proximity of regions of high pressure in the Rockies, cyclones, blizzards, etc., are unknown and the winds are never violent or of long duration. Moreover it is to these prevalent winds and the constant change in the atmosphere combined with floods of sunshine, that its remarkable purity is to be ascribed.

The physical results of the above conditions are equally remarkable. Increased respiration, resulting from diminished density, favours development of respiratory muscles and expansion of chest and lungs, leading to hypertrophy of lungs and aiding the healthy lung by complementary enlargement to take over the work of its disabled colleague. Increased respiratory movements aid the circulation of the blood and lymph in the vessels of the thoracic and abdominal cavities. There is an increased heat production and an augmented metabolism rendered necessary by colder air as evidenced by an increased excretion of carbonic acid from the lungs.

Blood counts made at higher altitudes show an increase in red corpuscles, and the objection at first raised—that the difference was owing to an error in the methods used, due to the diminution in barometric pressure, has been shown to be invalid. It is found that with the increase in the numbers of red corpuscles, there is a commensurate increase in the percentage of hæmoglobin. These changes are in early periods of exposure to higher altitude peripheral only, but after animals have been kept there from eight to ten days an augmentation is observable in the number of red corpuscles found in the large arterial trunks. It is due

to an increase in the hæmatopoietic activity of the bone marrow. Increased appetite, digestion and nutrition are the constant results of these bracing influences. These bring about increased resistance to the disease, leading to destruction of bacilli and prevention of new invasion, while further progress of the lesion and further intoxication is opposed. Cicatrisation and ultimate recovery are thus made possible.

Invigorating and health-giving properties of sunlight are soon apparent in people who arrive in the Northwest and take full advantage of the climate. The pallor of the East soon yields to a healthier looking colour, faces become sunburnt and the general appearance assumes that of improved health. Improved tone and nutrition are moreover disclosed in the temperament as well as in the physical appearance. After life under cloudy sky and devitalising influences of humid weather the sun's rays affect, change, and have an important influence upon the physiological processes. Both analytic and synthetic processes go on in the full flood of chemically active light. In short, light is life, though of the exact nature of life we know very little. Modern discoveries are teaching us that the whole interest of nature lies in the perpetual degradation and change that are going on not only in the animal and vegetable but in the mineral kingdom. The very enjoyment and agreeable stimulation which we experience from sunshine are gained at a cost which means the sun's degradation. When that degradation is complete, life, as we understand it, must cease. For aught we know the sun may be a vast mass of radium which in the process of breaking down gives out heat and light—new elements appearing which possess no radio-activity at all. How immense and inexhaustible this energy must be, is well illustrated in the apparent permanence as regards thermo, and photo-activity of even one-thousandth of a grain of radium. Whether the sun's light and heat is a form of radio-activity or not, its beneficial influence is undoubted, and it is one of the most powerful therapeutic agents at our disposal in the treatment of tuberculosis, and the climate having the most sunlight and affording the most opportunities for taking advantage of it all the year round is the best for the tuberculous patient.

SANATORIUM TREATMENT.

The treatment of tuberculosis is now universally recognized to be the building up of the patient's system so that his blood and tissue cells may be stronger than the invading organism and can repair its accompanying conditions or results. This renovation is best attained by the free exhibition, under medical supervision, of open air, food and rest. Fortunately in a number of cases this treatment will bring about arrest and cure anywhere, and so far it may be said that no special

climate is necessary. But it is still more true that moist climates with little sunshine and high atmospheric pressure are not so inimical to the disease as a dry, rarefied sun-laden atmosphere, and that for suitable cases such a climate as that of Calgary is essential and may be claimed to be a specific. Since the majority of patients are unable to leave home or go far away it is fortunate that so much can be done. There always remain a minority who under the best conditions and most approved treatment fail to improve to the desired extent and it is these who, if sent away early enough to higher altitude, to a more stimulating air and sunshine, may yet permanently regain their health and happiness.

In addition there are the well-to-do patients who want the best climate and treatment to be obtained, who want it at once, and who won't be happy until they get it. People, as in the time of Naaman the Syrian, have more faith in going far afield and the mental satisfaction of knowing that the very best climate as well as other treatment is being obtained, has no small part in the process of cure. The good effect of an equable mental condition cannot be overrated. It is often most striking as is also the opposite condition. Pershing reports a case of hæmoptysis due to hysteria, and worry about illness may be more harmful than the disease itself. The baneful effects of worry over genito-urinary, syphilitic complaints, or heart disease, as well as tumours, etc., is well known and applies equally to that under discussion. The mental factor has a powerful effect on the functional dyspepsia so common in phthisis, while bodily relaxation and easy breathing are most useful to nervous patients for the development of that serenity incompatible with the intense emotion which leads to pathological results. We cannot abandon to fanatics and charlatans an agent so powerful for good as the principle of suggestion, but we must use it skilfully and scientifically for the good of the patient and to increase his self-reliance. The personal influence of a physician firm, positive, and tactful, is a powerful sedative which may even be soporific and anæsthetic. In a sanatorium is obtained the desired mental rest and encouragement and as a consequence the best results, provided only that an early diagnosis is made and the patient comes soon under treatment. Under daily supervision he is not so prone to overestimate his strength and improvement and to bring on by unwise exertion the relapse which is so often worse than the primary attack. Gradually trained to such exertion as his strength permits, and advised how much he may do, his progress on the road to health will not be slower but will be sure until at last he is able to resume with safety ordinary life and habits.

After recognition of the disease it is still necessary to carefully select the cases which should be sent even to a moderate altitude such as Calgary, and especially so before sending them to such altitudes as Colorado and New Mexico where at 6,000 to 8,000 feet they often get more harm than good.

UNSUITABLE CASES.

Acute miliary tuberculosis need hardly be mentioned as too severe a form to be aided by removal, and it is inadvisable for any patient to undertake a long journey while suffering from any acute attack, since, after its subsidence a better opinion of the amount of disease and chance of improvement can be given.

Fibroid disease, since, as in advanced emphysema of people over 50 the elastic tissue is destroyed and cannot respond to and expand with stimulation, is not usually benefited by rarefied air. Rapid breaking down is likely to be still further accelerated by altitude, although now and again, improvement has been observed.

Advanced cases, having kidney, intestinal or laryngeal complications do not well bear removal; nor do the cases of nervous irritability with marked tendency to hectic fever and a pulse frequently going over 115.

SUITABLE CASES.

Suitable cases, those which do well and improve rapidly and permanently are:—

1. Those with little more than a tuberculous tendency, the early cases in which, apart from constitutional premonitory symptoms, wasting, anæmia, functional dyspepsia, etc., there are few discoverable signs, little consolidation, little change in breathing, with, perhaps, slight hæmorrhage, the first suspicious sign. These almost invariably do well for altitude seems to have no contra-indication for hæmorrhagic tendency, indeed, on the whole, hæmorrhages are less frequent in the same patients at moderate altitude than at lower levels.

2. Subjects of catarrhal tuberculosis with little consolidation. Among these may be classed the subjects of bronchial catarrh and repeated colds.

3. Those having chronic inflammatory condition limited in extent.

4. Those having a more or less quiescent condition with lung movements limited by pleuritic thickening and adhesions. The lung movements under stimulation of rarefied air will be increased and the adhesions and thickening stretched and lessened.

5. Tuberculosis with nervous asthma in young people whose lungs have not yet lost their elasticity.

6. In addition to pulmonary tuberculosis other forms such as tuberculous glands, bones and joints, as well as children subject to scrofula, tuberculous tonsilitis and dental caries are much benefitted by change of climate.

7. Besides tuberculosis troubles various nervous diseases such as loss of power, nervous exhaustion or neurasthenia, effects of overwork, retarded convalescence, some cases of dyspepsia and hypochondriasis are permanently relieved by climate of higher altitude.

It should be added that those leaving home should do so for a considerable time, since the process of arrest and cure is necessarily slow, and provision should be made for maintenance for at least 12 months—\$75 a month is not an excessive estimate for this and little current expenses although many manage with a less sum. It is a common experience that patients suffering from pulmonary tuberculosis who have improved considerably during treatment in a sanatorium, fail to maintain the improvement in health, or even become worse than before when they return too soon to the conditions under which they became ill. It requires a prolonged stay for a case to become entirely quiescent or obsoluscent. The outdoor occupation, possible in the Northwest for those whose illness has been contracted in unhealthy surroundings or climate, is another attraction preventing the return to dangerous environment or occupation. To withdraw a man from the town and fit him to live by agriculture or other outdoor employment is to give the best chance of keeping well and robust.

As well as providing for maintenance, sufficient and suitable clothing should be brought along. Flannel or wool underclothing, to protect against the coolness prevailing in the shade at night, is usually the best for all the year round. It need not be very heavy, since this embarrasses breathing and leads to over-heating and perspiration. Above all, the pernicious chamois chest protector, or vest, should be avoided.

For women, short skirts are essential for walking and hill climbing. Heavy skirts should be supported from the shoulder. Waist bands must allow free and easy breathing. One or two cushions will add greatly to comfort. For winter, should be provided a fur coat and one or two warm rugs, that sitting out at any time may not be interfered with.

With these precautions, and so prepared, the climate of Calgary can be enjoyed at all times and will be found equal to any in the world for tuberculosis. The Canadian will find himself among fellow countrymen, and under his own flag, with congenial surroundings. He will, therefore, in every way, have the best chance of regaining his health and strength, and add another to the great number of those who are in themselves the best proof that there is something in climate,

especially Calgary climate, which may be regarded as specific in the treatment of tuberculosis.

I have not burdened my paper with references in its course, but must express my indebtedness to various sources, including Dr. Bryce's "Climates of Canada", S. Cohen's "Climatology", articles on Climate and Meteorology in the British Encyclopædia, as well as various articles in medical publications and journals by Pershing, Earl Bullock, Burney Yeo, Kinghorn, Elliott and others.

EPIDEMIC DIARRHOEA,

BY

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The present communication contains some observations upon the causes of epidemic diarrhoea amongst infants, and the influences bearing upon the disorder. For our present purpose we shall include the diseases named gastro-enteritis, enteritis, entero-colitis, infective enteritis, infantile diarrhoea and cholera infantum, leaving aside typhoid fever and dysentery.

The records which I shall lay before you are compiled from the deaths due to these diseases reported in the city of Montreal. They are records of *deaths*, not *cases* of disease, but as we have no other means of gauging the distribution of the disease, it is quite fair and safe to presume that where the disease is prevalent there the deaths will occur.

The records deal with 812 deaths, rather more males than females, 460 and 352 respectively. The vast majority of cases occur during the first five years of life, very few indeed above that age, and about two-thirds within the first 18 months.

From the death registers we notice that the cases of epidemic diarrhoea commence about the end of May, and continue through the summer, reaching their highest number in the month of July, and finally disappearing about the middle of September. These returns show us that the course of the disease in Montreal is precisely the same as in any other part of the world as regards season and prevalence.

I propose, therefore, to give you the results of my investigations as to the causes or influences at work in Montreal, which favour the propagation of the disease and I shall confine myself chiefly to the public

health point of view, because the time at my disposal prevents me entering into the question from a pathological standpoint.

I have here a map of the city of Montreal, on which I have recorded in red the deaths reported due to epidemic diarrhoea during the year 1903. You will notice that the red dots occur in clusters and are quite unevenly distributed, and if you examine the map closely you will perceive that a few particular streets are the ones chiefly involved.

Now, there is obviously some reason for the disease picking out these particular areas.

Firstly, these areas do not correspond in any way with the distribution of the water supplies, so that we can safely dismiss that as a probable factor. If it were water we should have a much more general distribution.

Secondly, these areas on inspection turn out to be parts of the town in which we have low class property, narrow lanes and blind alleys, back to back houses, abundance of filth from house refuse and bad sanitary arrangements.

In nearly every place we found a small shut-in court, the houses arranged around it, with a narrow entrance to the court yard. The surface of the yard was quite unpaved and no provision for efficient drainage. In addition to this, as a rule, the court was very filthy from house refuse of all description. These courts can in no way be efficiently ventilated, seeing that it would be very difficult for any wind to get in and stir up the atmosphere; also being so shut in there was a very marked absence of sunlight. Under these conditions it was very obvious that dust carrying infectious material might be stirred up and would hang around in a cloud, and find its way through the open windows into the rooms bordering these areas.

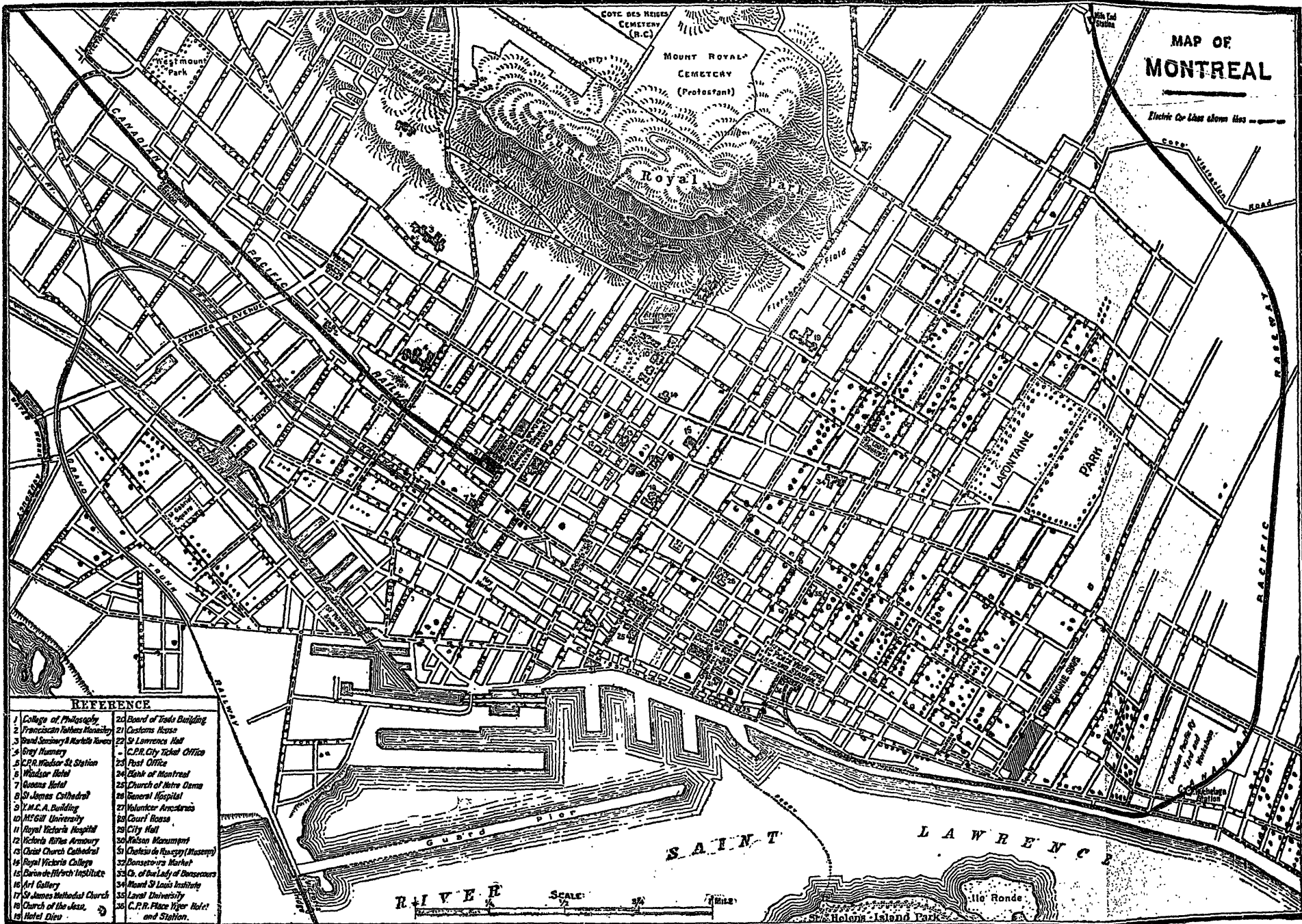
We have other property in Montreal equally poor class, with equally poor and squalid inhabitants, but situated in cleaner and more open parts of the town, as in Westmount and the west end of city—where the sanitary arrangements are much better.

Thirdly, food supplies are pretty much the same all over the city for this class of people, and no connection exists between the distribution of food supplies and the cases of epidemic diarrhoea. By this I wish it to be distinctly understood that I do not refer in any way to the storage of food stuffs in any place situated in the affected areas, but to the centres of distribution of food stuffs, as in milk shops and markets.

I hope to show later on that the food stuffs, as stored in the houses in these areas, are probably the chief channel by which the infectious matter gains admission to the intestinal tract. In this connection it

MAP OF MONTREAL

Electric Co Lines shown lines



REFERENCE

- | | |
|--------------------------------|--|
| 1 College of Philosophy | 20 Board of Trade Building |
| 2 Franciscan Fathers Monastery | 21 Customs House |
| 3 Bond Secretary & Market News | 22 St. Lawrence Hall |
| 4 Gray Humery | 23 C.P.R. City Ticket Office |
| 5 C.P.R. Windsor St. Station | 24 Post Office |
| 6 Windsor Hotel | 25 Bank of Montreal |
| 7 Quebec Hotel | 26 Church of Notre Dame |
| 8 St. James Cathedral | 27 General Hospital |
| 9 Y.M.C.A. Building | 28 Volunteer Armistice |
| 10 McGill University | 29 Court House |
| 11 Royal Victoria Hospital | 30 City Hall |
| 12 Victoria Rifles Armoury | 31 Nelson Monument |
| 13 Christ Church Cathedral | 32 Chateau de Rousesay (Museum) |
| 14 Royal Victoria College | 33 Bonsecours Market |
| 15 Baron de Hirsch Institute | 34 Ch. of Our Lady of Desecours |
| 16 Art Gallery | 35 Mount St. Louis Institute |
| 17 St. James Methodist Church | 36 Laval University |
| 18 Church of the Ass. | 37 C.P.R. Place Viger Hotel and Station. |
| 19 Hotel Dieu | |

SCALE: 1" = 1 MILE

is to be noted that the majority of cases occur amongst infants whose dietary is very limited, of which milk forms the staple article.

Hope, of Liverpool, showed by the statistics there, that a very large number of the cases of epidemic diarrhœa occurred amongst infants who were hand fed and not breast fed. His observations have been confirmed over and over again. By this process of exclusion one is brought down to a consideration of the *soil conditions* in and around the houses situated on these areas.

Inspection shows that the *composition* of the soil differs little in the affected areas as compared with neighbouring lots where the disease is not common. As a rule it is of a loamy nature. We know that such grounds as clay and rock do not favour the disease, but that porous loamy soils, gravelly and sandy soils, do. Still there must be something else in addition, because there are plenty of other places in the city with loamy soils, in which epidemic diarrhœa occurs but rarely.

Again, the formation of the ground must be taken into account. It was found that those areas in which the disease is rife are *all low lying* as compared with the surrounding places. By this, one means that the area under consideration would have a tendency to receive sub-soil drainage from the areas immediately around. There is generally a well marked hollow, as in a portion of Beaudry and Sanguinet streets. This undoubtedly favours drainage of the subsoil water towards this hollow, and if the soil contains polluting material, this will naturally drain towards the same level.

We have already seen that there is in every instance an abundance of house refuse lying thick all over the ground around the houses in these areas, and this refuse is particularly rich in putrescible organic matter; hence the ground itself must be very rich in this material.

Another weighty fact brought to light during these investigations is that the drainage of these districts is bad. For instance, absence of drains showed that slops thrown on the ground would not be conducted along to the sewer, or defective leaky drains tended to soak the ground with sewage.

Privies or cesspools are more often than not to be found in these areas, and as these offer exceptional facilities for the draining away of the liquid contents into the adjacent soil, it follows, therefore, that the soil in these areas must be badly contaminated by all this drainage which it receives, and by the solid refuse which is allowed to collect upon the surface.

I may here mention an interesting fact showing at least that this drainage question has some distinct bearing upon the dissemination of the disease. Near Atwater Avenue there is an area in which the privies

and bad drainage were at one time very common. During the last few years they have been clearing them away, though they still exist in Albert St., Seigneurs St. and Lusignan St. In the adjacent streets of Fulford, Canning and Chatham, all privies have been cleared away, and the sanitary conditions are much improved generally. The houses themselves are practically unaltered and the inmates are of the same class as before. Now cases of epidemic diarrhœa are not at all numerous in these streets.

It is thus proved that the soil in these areas is badly polluted and particularly rich in drainage matter. This organic material is very rich in micro-organisms, chiefly those found in sewage.

A good deal of work has been done upon the isolation of organism and identifying them as the cause of the disease. It has been abundantly proved that a variety of organisms are capable of causing epidemic diarrhœa. These are [1] Saprophytes; lactic acid group and proteus group: Pathogenic [2]; colon group, *B. Ent. sporogenes*. Most of the organisms isolated are of the *aerobic* variety.

From conditions which we find existing at times of diarrhœa epidemics we shall see later that one would expect a considerable number of *anaerobes*, and I shall hope to show at some other time that these anaerobes ought to demand more of our attention as causative factors in epidemic diarrhœa.

From the seasonal curves we see that climatic conditions are very important. As is well known, temperature and moisture play an important role in these epidemics. Ballard was the first to prove conclusively that it was only when the temperature of the earth at a depth of four feet reached 56° F. that the disease spread at all. He showed also that the temperature at this depth is only influenced after several days by atmospheric temperature, so that an occasional daily variation has no effect upon it.

Wind and rain interfere very much with the spread of an epidemic, allaying the dust and washing it away, besides cooling the ground if continued for some time. Although present in dust the organisms are prevented from flying about and settling on food.

We have thus the following conditions; a soil rich in organic material, loaded with organisms, warm and moist, all conditions favouring the growth of microorganisms, and amongst them those causing epidemic diarrhœa.

The next thing to settle is how they gain admission to the alimentary tract. I have already pointed out that the places most affected are those in which we have alleys, courts, very dirty ordinary soil surfaces, unpaved, shut in so that there is no external ventilation whatever, and

overcrowded unsanitary houses all around. The organisms in the soil find their way into the air as dust, and so contaminate the food stuffs stored in the houses, and I feel sure that any conditions, such as paving yards and alleys, which prevent the dissemination of the bacteria bearing dust, will exert a marked influence for the better upon the course of epidemic diarrhoea.

We arrive therefore at the following conclusions:

First:—Attention to external ventilation so that such things as blind alleys, closed in court yards should never be constructed or allowed. In this way the air ventilating the house immediately around would certainly be pure and free from infectious disease.

Second:—The proper paving and drainage of these yards would prevent the soil becoming badly polluted, eventually giving rise to infectious dust.

Third:—The removal of refuse is important, applying both to house refuse, which is found lying in these yards, in many instances forming foul heaps, and also to the removal of the liquid house refuse, namely that associated with drains, privies and cesspools.

Fourth:—Cleanliness; that is frequent and efficient washing of these paved yards, would lessen the incidence of disease.

These seem to be the vital things, because, it seems to me, that the prevention of food being contaminated is a much wiser procedure than to attempt to sterilise the food after it has been contaminated. At the same time one does not for a moment minimise the good results obtained by food sterilisation, because we all know that there are instances where food might be contaminated elsewhere than in the homes of the people, and under these circumstances only sterilisation before consumption would lessen the risk of disease.

ANGINA PECTORIS,

COMPLICATED WITH EPILEPSY AND CHRONIC MALARIA.

BY

J. HERBERT DAREY, A.M., M.D.

J. H. J., aged 57, came under my observation in the later part of November, 1903.

Family History: Father died at 35 years of age of consumption. Patient is the youngest child in the family. He has had three brothers, all of whom are dead, and one sister still living. One brother died at the age of 10 years, cause unknown. One brother died aged 25 years, two years after receiving a gun shot wound in the chest in the Civil

War. Another brother died aged 47 years, of pneumonia. The sister who is now living at the age of 60 years, has been married twice, and has several children by both husbands. She is in a good state of health.

Personal History: Patient was always strong and healthy. He enlisted in the 8th Minnesota Volunteers in the Civil War and served three years. He has a hospital record for acute malaria and suffered from rheumatism. After being discharged from the 8th Minnesota, he enlisted in an artillery regiment in the regular service, and was honourably discharged in 1866, with a surgeon's certificate of good health.

For the following notes I am indebted to Dr. E. H. Dwelle, of Northwood, who attended J. H. J. in February, 1902. Previous illness:—rheumatism and malaria in army, has attacks of epilepsy, coughs every winter. Present illness:—severe cough for about four months, much expectoration, no blood, soreness and pain in region of spleen, sleep, appetite and bowels fairly normal, expectoration less now. Physical examination:—nutrition poor, loss of weight 20 lbs. since last summer, lung expansion poor, vocal fremitus increased on lower left lung, no rales heard, heart apex beat not visible nor palpable, pulse strong, regular, about 80, soreness and tenderness in abdominal muscles, liver enlarged, knee-jerk increased.

The above notes hold good for his present condition, except that he has not had so much cough this winter. He is troubled with a "chronic winter cough" however. For about 10 years after leaving the army he worked at his trade as a harness-maker, feeling fairly well most of the time, though he had spells when he felt very poorly. Probably this was due to exacerbations of his chronic malaria and attacks of chronic rheumatism. About this time he began to have attacks of epilepsy, from which he has suffered ever since, at irregular intervals. He has the "grand mal" or true epilepsy, falling over and becoming unconscious, biting his tongue, frothing at the mouth. Patient is married and has five children, two boys and three girls, aged from 22 to five and has the "petit mal" frequently, and this winter had one attack of "grand mal," falling unconscious out of doors, and losing quite a lot of blood from numerous scratches on his face, due to his having the convulsive seizure on the frozen ice and soil.

Present Illness: I was called to see J. H. J. on November 20, 1903, and found him suffering from an attack of angina pectoris. He had been feeling unusually well during the summer, but during the latter part of August and September, began to feel poorly. He had had three distinct attacks similar to the one in which I found him, for which he had taken no treatment. I found him suffering from a well

marked attack, with the characteristic cramp over the cardiac region, pain running down the left arm and pulse feeble, about 76. I prescribed digitalin 1-60 gr, nitroglycerin 1-100 gr. and strychn. sulph. 1-60 hypodermically at once, with sod. brom. gr. 10, tr. digitalis, m 10 every four hours, as he was very nervous, and ferri quin. et strychn. citr. gr. iii t. i. d. as a tonic. I also ordered nitrite of amyl. in five minim pearls to be kept on hand, and used at once, in case he should have another attack.

December 9th, I found that he was having bad spells every other day and on questioning him closely learned that he had been laid up in hospital during the war with acute malaria. I diagnosed this condition of feeling poorly every other day, as due to chronic malaria, and put him on quin. sulph. gr. 1. t. i. d. and ordered him on the well days to take double doses. This treatment was attended with marked relief to the symptoms. I did not see the patient from Jan. 1st, to Feb. 1st 1904, when I was called in. I found him in fairly good condition. He had had no further spells of angina pectoris since December, and his chronic malarial condition was much improved. I had added liq. anrsenicalis m 5, to the quin. sulph. to assist him in getting rid of his malaria and this proved of marked benefit.

On February 7th, I was hurriedly summoned to see him. I went as quickly as I could, about half a mile to his residence, expecting to see him in an attack of angina pectoris, or perhaps dead. I found him suffering from a very severe attack. He was using nitrite of amyl. pearls by inhalation in a handkerchief freely. His nearest neighbour, a veterinary surgeon, happened to be there, to inquire how he was, and he proved of invaluable assistance to me. The patient was very nervous, shaking all over and hardly able to keep the handkerchief applied to his nose, for trembling. He was quite cyanosed also. He was sitting in the parlour and I thought it would be better to bring him into the sitting room, where there was a good fire. The veterinary surgeon and I took him each by an arm, and he was able to walk into the sitting room with our assistance. He kept on trembling violently and kept getting more and more cyanosed. The veterinary surgeon kept count of his pulse for me, while I was preparing to give him a hypodermic of brandy. While I was getting my syringe ready, he suddenly rose to his feet, and muttered something like "whiskey." He was entirely unconscious. I saw there was no time to be lost, so I grabbed the bottle of brandy on the table, and ran over to him, and tried to force it to his lips. He did not know enough to drink it, but was struggling with the doctor and me, shouting incoherently at the top of his voice. I had all I could do to hold his right arm, as he was swinging it violently about his head, like

a man waving his hat, and was cheering at the top of his voice. He was fighting the battle of Look Out Mountain, above the clouds. All this time, he was entirely unconscious, with his face black, cheering, swearing, fighting and struggling with us, so that we had all we could do to keep him quiet. I only managed to get him to swallow some brandy by forcing the bottle between his lips. He took several great gulps, about three ounces, I should judge, and then suddenly sat down exhausted. I expected to see him fall dead at any moment, for his pulse at the wrist was imperceptible. He gradually came to, however, and recognized us. He remarked that that was the best whiskey he had tasted since he was in Kentucky, during the war. I firmly believe that he would have died there and then if I had not succeeded in forcing the bottle into his mouth and pouring the brandy down his throat, when of course he swallowed it automatically. His face and tongue especially, were black for three hours afterwards. Luckily he has no teeth, or he might have bitten his tongue severely. I gave him a hot foot bath with mustard in it, in about an hour, for his feet were cold, and some more brandy when needed. He evidently had an epileptic fit, in conjunction with his attack of angina pectoris. I also shaved the back of his head up to the external occipital protuberance and applied a blister to it.

The aura of epilepsy always seems to start from his left side at the region of the spleen. Next day, when he had recovered from the immediate attack I examined his side and found that the splenic dulness extended six inches vertically. By pressing under his ribs I caused him to wince, this showing considerable enlargement of that organ. I applied a large blister of red iodide of mercury to the side, 1 drachm to the ounce and repeated it in a few days. I also put him on liq. arseni et hydrargyri iodidi, m ii. t. i. d. which he is taking yet, in addition to the quinine. Since that time he has been gaining steadily, and has had no more attacks of agina pectoris, or epilepsy. As the weather grows warmer, I am confident he will improve more rapidly. His appetite is good, and he can do light work, but lifting of any kind hurts his side. The splenic dulness rapidly diminished. I feel sure that it is his condition of chronic malaria, with an ague-cake spleen that has caused his epileptic convulsions, as this is always the starting point of his attacks, and he feels sore in the left side for several days before the epileptic fit comes on. By judicious treatment I think his epileptic fits can be kept in abeyance, while his angina pectoris of course, is liable to carry hm off at any tme.

The patient though a poor man, a harness-maker by trade, comes of a good family. His case is certainly a most interesting one, from a medical point of view, and I think he could have been saved years of suffering and inability to work at his trade, had his condition of chronic

malaria been diagnosed and properly treated, and he could also have been spared the misery of being an epileptic for 30 years or more, and bringing into the world a family who all have a tendency that way more or less, and two of whom have epileptic fits.

VALEDICTORY ADDRESS, 1904,

BY

J. T. HALSEY, M.D.

Gentlemen of the Graduating Class:—There falls to me to-day the privilege of addressing you in the name of the faculty, under whose guidance, you, for the past four years, have been working toward the goal, which to-day you have reached. There is perhaps a peculiar appropriateness in my being the one to welcome you into the honourable profession of medicine, for, as you know, your and my connection with the McGill School of Medicine began, as they are ending, together.

Most addresses to graduates in medicine give expression to sentiments dealing with the nobility of the high calling of medicine, and of the great opportunities open to those practising the healing art, sentiments which you have heard or read so often that they may strike you as platitudes. But platitudes are often the very crystallization of verity, and there is nothing in this universe truer than the statement that a competent physician who practices his art diligently, conscientiously, and unselfishly, can do more than almost any other man to lessen the sorrow and suffering, and to increase the comfort and happiness of his fellows.

Robert Louis Stevenson, who as an invalid for many years, had exceptional opportunities to learn to know physicians, and their works has written in his *Dedication to Underwood* a tribute to our art which is, to my mind, as true as it is beautiful: "There are men and classes of men that stand above the common herd: the soldier, the sailor and the shepherd not infrequently; the artist rarely. . . . : the physician almost as a rule. He is the flower (such as it is) of our civilization; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has such as is possible to those who practice an art, never to those who drive a trade; discretion tested by a hundred secrets; tact tried in a thousand embarrassments; and what are more important. Herculean cheerfulness and courage. So it is that he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing."

In the name of those, who, for four years, have striven to aid you in

acquiring the essentials of medical knowledge, I congratulate you on the successful completion of your arduous and difficult course of studies, and, having watched you closely and sympathetically during this time, commend you for the industry, intelligence and devotion with which you have laboured. As a member of the Medical Profession, I welcome you into the ranks, hoping that you may find therein success, honour, and contentment in the degree which individually you may deserve. At the same time I would bespeak from you your best efforts for the maintenance of our profession on a high level and for the advancement of its truest interest.

Those who have actually practised medicine and attained success therein are far better qualified to address you on such an occasion as this, than I am, who must speak chiefly as academician, but I will ask you to hear me patiently and, if there be grains of sense in my words, to sift them from the chaff and weigh them well. None of you need be told, that although you have no more examinations to pass you will still have much to study and learn, and that if you do your full duty you will cease to be students only when your life-work is done. May I make a plea that in your future studies you do not neglect the two fundamental subjects of physiology and pathology? In one sense, the practice of medicine is only a practical application of these two branches, and it is my firm conviction that correct and exact physiological and pathological knowledge, carried into the consulting room and to the bedside, will point out to you the true road, not only to correct diagnosis of ailments and proper appreciation of conditions, but also to the chief goal of the physician, helpful treatment of your patients. Such knowledge must also enable you to steer the correct course between the extremes of therapeutic nihilism and credulous empiricism.

In spite of the knowledge already acquired by you of the actions and uses of our various remedial agencies, it will be necessary for you to obtain for yourselves a practical opinion of their comparative value and efficiency and of the indications for their use. Unless you especially direct your attention to this phase of your work and systematically observe and record the results of the use of your drugs and other remedies, you will run a very great danger of obtaining false impressions instead of firmly founded convictions relating to this most important part of your vocation. The substitution, on the part of many eminent physicians, of loosely remembered impressions for clearly recorded observations, is undoubtedly responsible for a widespread belief in many chimerical methods of treatment.

Another suggestion is that those of you, who wish to keep your intellectual machinery smoothly and accurately running, should pick out

early in your career some especial field of interest, and endeavour as far as possible to acquaint yourselves thoroughly with it and keep yourselves completely informed of progress made therein, so that you may feel that you are in a measure, authorities in at least one field of medical science. Such especial fields are those dealing with diseases of metabolism, matters of public health, dietetics, or the vast subject of immunity and allied processes, which at the present time so dominate medical thought throughout the world. It will not be easy for a man settled far from medical centres and earning but a scanty livelihood to carry on successfully such study, but that it is possible is proven by many a man who has contended successfully against just such difficulties. Those of you, who many settle in towns where there are medical schools or hospitals, can in no way more certainly assure your intellectual progress than by associating yourselves with such institutions, and, although working only in the most subordinate capacities, devoting a large proportion of your time to your duties there. You all know so well the value of one or more years' residence in hospital, of time spent in the medical centres of the old world, getting at the same time new experience and knowledge and a different point of view, that it would be a waste of words to more than mention these matters. You will perhaps excuse a special plea for advanced study for the branch of medical science which has most interested me, namely physiology, and allow me to quote two of the foremost clinicians of our time to the effect that the hope of clinical medicine and treatment lies in the study of physiology.

What has been said thus far has been in the nature of suggestion as to how you may increase your purely medical qualifications, but there are other sides of the intellect and character which must be developed in order to fully form the physician. In the past four years, overwhelmed as you have been by the colossal task of learning the essentials of medical knowledge, few of you have been able to pay much attention to intellectual growth in other directions. In the next few years you will often be afflicted by all too much leisure, a part of which cannot be better utilized than by developing yourselves on other sides than the medical one. Seek good society, read a fair amount of good literature, hear good music, if you have both taste and opportunity to do so, and endeavour to learn to know human nature both through social intercourse and through books.

At the risk of wearying your patience I would like to speak briefly of some of the civic opportunities and duties of physicians. Public opinion and action on matters affecting public health must be largely formed and guided by the members of the medical profession. If, in

later years, your community be visited by a typhoid epidemic or be devastated by some other preventable disease, you will be directly accountable, to yourselves, for the misery and sorrow enjoined thereby, unless you have continuously and with no uncertain voice protested against the conditions responsible for the trouble. Do your part and more, in the fights being waged against tuberculosis, sweat shops, unsanitary dwellings, impure food, intemperance, and other social evils. Inform yourselves as to the care of the insane and the indigent or criminals in that part of the world where you are working, and then try to do something to better any abuses connected therewith, which are, in so many places, a menace to the well being of the community and a blot on its civilization.

The laws governing medical practice and admission to practice are, almost everywhere on this continent, in a most unsatisfactory condition. Recently there have been attempts made by the licensing boards of certain states and provinces to usurp the functions and prerogatives of the teaching bodies, in that these boards have taken it upon themselves to prescribe not only the subjects to be studied but also the number of hours that shall be devoted to the study of individual subjects of the medical curriculum. I quote from a circular of one such board, the number of hours which shall be devoted to the study of that branch of medical education, with which I have myself been identified. The licensing board of one of the United States prescribes that applicants for a license to practise medicine in that state shall have heard didactic lectures on that subject amounting to at least 264 hours, and that they shall have spent 30 hours in laboratory courses dealing therewith. It goes even farther and demands that of this time certain proportions shall be devoted to different sub-divisions of the subject; for example, 24 hours to didactic lectures in dietetics, and 30 hours to lectures on electro-therapeutics. This is no time to give other figures, but it may be stated in passing that this body, composed chiefly of men not engaged in teaching and therefore ignorant of the various problems connected with medical teaching has drawn up a schedule of lectures, clinics and laboratory classes amounting to over 4,500 hours of required exercises, exclusive of practical dissection; in other words, if the student's course extend over four years, of the length of the McGill teaching year, he must spend 42 hours weekly in attendance on laboratory classes, lectures and clinics; that is to say, from nine to one and from two to five six days in the week. Where he is to get time to dissect or to work in the hospital ward or out-patient departments, I leave the sapient members of this board to answer. You, as members of the medical profession, will have opportunities to exert your influ-

once in such matters as this and it is to be hoped that, remembering your own student days and those who have laboured to aid you in your preparation for your life work, you will protest against such abuses.

And now, gentlemen, an end to advice and suggestion. We, who in the past have been your teachers and are now your colleagues wish you God speed in the life which lies before you, we shall be interested in your welfare and be glad to greet you should you in the future visit us either at old McGill or elsewhere.

Mr. Dean and Gentlemen of the Faculty and teaching staff of the McGill University School of Medicine: On this occasion, I, formally take my leave of you. Allow me to express to you in a few words my appreciation of the privilege and advantage which I have enjoyed in the four years in which I have been associated with you in your honourable work of medical education. Although this association has been one of but short duration, it has been one which I shall always value highly, not only for the opportunity which has been of such importance to my own development and education, but also because of the pleasant associations, and, in many instances, valued friendships which I have formed among you. Although I am severing my connection with McGill, let me assure you of the continuance of my sincere interest in its future progress and welfare. May this interest plead as my justification if I venture on this, the last occasion on which I speak as one of you to offer a suggestion for your consideration. It is, I believe, your unanimous opinion that our present four years course is all too short a time for the proper education of medical students. A five years, course is unfortunately at the present time out of the question for reasons which need not here be discussed. We have, however, in Montreal, it seems to me, a unique opportunity to overcome at least in part this difficulty, in that its summer climate is one which does not necessitate a fleeing to the mountains or to the sea as is the case with so many other cities. I know of no other medical school of the first rank on this continent of which this may with truth be said, and there lies, in my belief, the exceptional advantage of McGill. May it not be feasible and highly advantageous to institute, in some form or other, a summer term during which our students and perhaps students from other schools may have an opportunity to supplement or review the work of the regular session? I would suggest that, in its inception, such summer teaching be of an extra mural character, that it be done entirely or in large part by the capable junior men, who abound in this community as in few others of like size, and that the taking of these courses by the students be purely optional.

If you find it wise and expedient, the work done by the students

during this summer term, under teachers approved by the heads of the various departments, might be accepted in lieu of work done during the regular session, thus removing something of the burden of work from their over-taxed shoulders. The advantages to the students of such a plan are so manifest that it would be superfluous to discuss them. Those to your junior colleagues are perhaps less obvious, but no less decided.

Such courses would offer to the younger men the opportunity of teaching independently the subjects in which they are most interested and of demonstrating to you their ability or lack of ability as teachers. Those giving these courses would also be gainers in two other directions. The teachers are usually the best taught of the class, and the fees, which they would receive, would be most welcome and valuable additions to incomes which are rarely plethoric. May I trust that in proposing to you this plan I have not seemed presumptuous and ask of you that you consider its feasibility and its desirability?

And now, before bidding you farewell I wish to offer my sincere thanks to you for the opportunities which I have enjoyed during my term of service at McGill, and express my individual gratitude to those among you, with whom I have been most thrown and from whom I have received both in and out of the college so many kindnesses. More particularly I would wish to take this opportunity of expressing publicly my sense of deep indebtedness to Dr. Blackader for his constant kindness.

At this time too, I would wish to acknowledge my debt of gratitude to Mr. David Morrice, through whose generosity the Eddie Morrice Research Laboratory was equipped, and he has also contributed to the support of the department. Although the tangible results of the work, which by his timely gift was made possible, are neither so numerous or so important as I should have wished, yet I do not think I err in believing that the establishment of this laboratory and the inauguration of the teaching and other work done there have been of advantage to this school and its students. May his generosity be imitated by other friends of the medical profession!

Although leaving this school my interest in its progress and welfare will always remain a lively one. May it continue in the future as in the past to send out yearly its quota of well trained and capable physicians to uphold its reputation throughout the land. May generous friends in the future as in the past come to its aid with monetary assistance in order that it may continue in the van, not only as a school for the education of physicians and surgeons, but also as a school doing its part in the advancement of medical science and the increase of knowledge of diseases, their nature, prevention, and cure.

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THE MEDICAL CONVOCATION.

The seventy-fifth annual convocation of McGill University for conferring degrees in the Faculty of Medicine, which was held in the Windsor Hall on June 10th, differed in some respects from preceding ones. The number of graduates was eighty-two, last year it was an even hundred. The ceremony of convocation is an important one in the life of the student. It is the one to which he looks forward; it is the last which he remembers. We are continually saying, that the graduation should be accompanied by a full show of academic pomp and dignity, which would impress the imagination of students, graduates, and the public alike with the importance of their university. It should be conducted within the walls of the university,—that will come in good time when a worthy hall of ceremony is provided.

The attendance of the public, either in respect of numbers, of quality or of sex, was not imposing, and the greater part of those present did not appear to find the proceedings very interesting. It is a great

stimulus of curiosity to an audience to hear what is being said. If it is not possible to adjust the voice to the size of the hall, an obvious remedy would be to provide a smaller meeting place. The sentiments, which were uttered by the valedictorian for the students, were inaudible to most persons, and even Dr. Halsey's address was largely unheard. The vice-principal's voice rang through the hall, which shows that the thing is not impossible, but as he spoke chiefly in the latin tongue, the situation was not much improved.

Something is also to be said about the attendance of the various elements which make up the corporation of the University. The Visitor and Chancellor were absent as a matter of course. The Principal was in the United States attending another function. Of the fourteen Governors, one alone was present, Judge Archibald, who presided with great decorum. Of thirty-nine Fellows, there were but two; and of the Officers of Instruction, who number considerably over two hundred, only twenty-five attended. At no time did the total representation rise above thirty-two; towards the end of the proceedings it sank to less than twenty. If the undergraduates were present, they concealed themselves most sedulously.

The memorandum, which was read by the Dean for Dr. Craik, was an important document, as it set forth clearly the present situation of medical education in the province of Quebec, and contained the suggestion, which many have felt for a long time, that the whole matter should be put upon a different footing. Dr. Craik proposed that medical education should be regulated by two separate boards, as is done in the case of the public schools. The recent performances of Mr. Taschereau and Dr. Lacombe in the legislature have aroused a spirit of revolt against the present arrangements. It is intolerable that the whole system should be thrown into disorder every year, and that the energies of the university should be consumed in setting it right for another twelve months. The present joint board would do well enough, if the legislators would leave us alone. If they do not leave us alone, the movement originated by Dr. Craik will receive such force that it cannot be resisted. Then the question will be settled forever; if not in the best way, at any rate it will be settled.

THE CIGARETTE.

A bill to prohibit the importation, manufacture or sale of cigarettes in Canada was introduced in the Dominion parliament by Mr. MacLaren, of Huntingdon, and received its first reading on June 2nd. It has since been read a second time. If this bill become a law, it will then be a criminal offence to have in one's possession a single cigarette.

In the words of the bill: "No person, by himself, or by his clerk, servant, employee or agent, shall, for himself or any one else, directly or indirectly, or upon any pretence, or by any device, manufacture, sell, expose, keep, or offer for sale, or give away any cigarette, cigarette papers, or cigarette wrappers or any substitute for such wrappers, or shall keep or own, or be in any way concerned, engaged or employed in owning or keeping, any cigarettes or cigarette papers or wrappers, or shall authorize or permit any of these things to be done. No cigarettes, cigarette papers or wrappers shall be imported into Canada or entered for consumption therein, and all cigarettes, cigarette papers or wrappers, or papers intended as such, shall be subject to seizure by any officer of Customs or Inland Revenue."

The bill further provides: Any person who, by himself, or by another, contravenes the provisions of this Act in any manner shall incur a penalty not exceeding one hundred dollars, and not less than twenty dollars, for a first offence, and in default of payment shall be liable to imprisonment for a term not exceeding six months, and not less than one month, and for a second offence he shall be liable to imprisonment, without the option of a fine, for a term not exceeding one year and not less than six months."

Legislative folly could go no further. It is as well that the bill should pass. It will not be obeyed, and the penalties will not be enforced. The law will serve as a warning to foolish persons that there is a limit to their capacity for interfering with the private affairs of their fellow men.

The parliament has agreed to treat the thing as a jest, but it is a mischievous form of humour as it serves to bring all legislation into contempt. The prime movers in the matter appear to be a body of women, who have never demonstrated their capacity or willingness to attend to those functions for which that portion of the human race was mainly designed. Women who have attended to the greater matters of the social law are not usually those who concern themselves over so small a thing as a cigarette.

VOLUNTARY ADMISSION TO ASYLUMS.

The most trying cases with which the general practitioner has to do are those on the border line between sanity and insanity. Practically every patient who finally enters an asylum has passed through that stage. Even if his physician had recognised the condition at the earliest possible moment, he was unable to avail himself of asylum treatment.

Under the present statutory regulations a patient cannot be admit-

ted to an asylum until his disease has fully declared itself. All alienists agree, that the best remedy for insanity, lies in an early recognition of the disease, and prompt treatment by hospital methods. The law proceeds upon the theory that a patient may not be admitted until he is practically incurable. This is a result of the policy of slander, which used to be carried on against asylums by vicious or wilfully ignorant novelists for their own purposes.

The remedy lies in permitting patients to retire to asylums, when the first symptom of their malady is observed, and that principle is freely admitted in many parts of the United States. In this province, indeed, some superintendents have admitted such cases, and from information received from the attorney-general it appears that they are not contravening the law. But this is not enough. Even if a patient is admitted at his own request, upon the advice of his physician, he is free to leave at any moment which his own unbalanced judgment suggests to him.

The attorney-general has the matter under advisement, and if the wisdom of introducing a provision into the law, by which patients may be permitted to enter an asylum voluntarily, and there remain at the discretion of some authority outside their own whim, then he is willing to sanction such an amendment. The superintendents of asylums should get together; they should consult with the medical societies, and obtain the experience of other communities for the benefit of the legislature.

Such a provision would be of incalculable good in all cases of mental disturbance, whether due to organic disease, or induced by the excessive use of intoxicants or narcotics. The best information is that before another year we shall have an amendment to the law, which will permit of such cases being effectually dealt with.

FRENCH-SPEAKING PHYSICIANS.

The second congress of French speaking physicians of North America, which assembled in the halls of Laval University on the 28th of June, passed off with great *éclat*. The attendance was large, and was not confined to physicians speaking the French language, as many of the sister societies accepted the invitation, which had been so courteously extended, to send representatives to the congress. France sent an official delegate, Professor Pozzi.

On Tuesday morning, Dr. Foucher, the president, opened the congress; the general secretary read the annual report, and the sections proceeded to work. In the evening a formal meeting was held, at which Archbishop Bruchesi and Lieutenant-Governor Jetté presided. The

University extended a cordial welcome, and the delegates and representatives replied. A reception followed, at which many ladies were present. After a day spent in meetings of sections and committees, the members held a very successful banquet and concert of music at the Place Viger Hotel on Wednesday. On the following day the congress was closed with the election of officers and the usual formalities; afterwards there was an excursion by steamer down the Lachine rapids. This congress, though one of the youngest, gives promise of interest and usefulness to the medical profession.

CANADIAN MEDICAL ASSOCIATION.

The arrangements for the thirty-seventh annual meeting of the Canadian Medical Association, which is to be held in Vancouver, on the 23rd, 24th, 25th and 26th of August, are so well advanced, and the response to the invitations to attend and read papers have been so free, that the success of the meeting is already assured. The railway fare from Montreal to Vancouver and return is only sixty-eight dollars, and it is expected that at least two hundred persons will take advantage of it.

In a previous number we gave rather a full account of the attractions which are offered to visitors in the way of excursions and trips from the main line, and the wide detours into new territories which may be made. Members who have not yet made arrangements for the trip and desire further information may communicate with the General Secretary, 129 John Street, Toronto.

The American Medical Association which met in Atlantic City on June 7th has 15,039 members. To give even an abstract of the proceedings of so large a body is impracticable. The meeting lasted four days, and being divided into numerous sections, the range of papers and discussions was very wide. Dr. Frank Billings, of Chicago, presided. Next year the president will be Dr. Lewis S. McMurtry, of Louisville, and Dr. G. H. Simmons, of Chicago, secretary. According to the very admirable reports appearing in the medical journals of New York, a large number of Canadians attended the meetings and took part in the proceedings. The next meeting will be in Portland, Oregon, and the address in surgery will be delivered by John Collins Warren, of Boston.

The untimely death of Dr. Rollo Campbell came as a shock to the whole community. Dr. Campbell contracted typhoid fever late in May, and at the convocation of his University, on the 27th of May,

grave fears were expressed of his recovery. These fears were realized on the following Monday, and the interment took place on the 2nd of June with the full military ceremonial. Dr. Campbell, from his long association with Bishop's College, the Western Hospital and military organizations had a wide acquaintance with the public, and his qualities of nature endeared him to those who knew him intimately. A full tide of sympathy has gone out to his honoured father, the Dean of Bishop's College.

A correspondent writes to *American Medicine*, Philadelphia, April 16th, 1904, that he recently sent a private communication to the editor of the *Montreal Daily Witness*, asking the question: "Are you aware that Peruna, advertised in your paper, has been analysed and found to contain about 50 per cent. of bad whiskey? I ask this, knowing your interest in the cause of temperance." The correspondent writes that the Peruna advertisement was promptly omitted in the further issues of the *Daily Witness*. He concludes by saying that "Such an instance of consistent and conscientious action on the part of a newspaper should, I think, receive some word of commendation from the medical profession."

Dr. R. Tait McKenzie has communicated to McGill University his intention to resign the position of Governor's Fellow, Lecturer in Anatomy and Medical Director of Physical Training. It is understood that Dr. McKenzie is to be appointed head of the department of Physical Education in the University of Pennsylvania, Philadelphia, with such other appointments as go with that position. The University of Pennsylvania has recently expended over half a million dollars in the erection of a department of physical education and Dr. McKenzie has been called on to supervise its equipment and organization.

The American medico-psychological association completed its 60th annual meeting in St-Louis on June 3rd. This is the oldest medical society in America, and was founded in the year 1844, as the association of medical superintendents of American institutions for the insane. Canada was poorly represented, only three members being present; but of these, Dr. T. J. W. Burgess, of Montreal, was elected president for the ensuing year. The next meeting will be held in San Antonio.

The University of Wisconsin, at Madison, celebrated its jubilee year during the first week in June. It is not a little remarkable that the representatives of British universities, who attended, were all members

of the staff of McGill. In choosing amongst its graduates upon this continent, who should represent it, Oxford selected Principal Peterson; Cambridge, Dr. Adami and Dean Bovey; London University, Professor McBride, and Victoria University, Manchester, sent Dr. Adami.

The degree of Doctor of Laws, which was conferred upon Dr. Trudeau, of Saranac, by McGill University, is a graceful tribute for his work in connection with tuberculosis. Dr. Trudeau, more than any other man, has demonstrated that consumption is curable and has brought hope to a multitude of sufferers and to their friends.

La Revue Médicale du Canada appears with a new editorial board, composed of Drs. L. E. Fortier, Damien Masson, A. Ethier, F. X. DeMartigny, W. J. Derome, general secretary, and P. P. Boulanger, as manager. This journal appears weekly and reflects the activity amongst the French Canadian section of the profession.

Dr. Halsey's address at the medical convocation was his valedictory to the faculty as well as to the students. He left the same evening for Johns Hopkins medical school, where he will remain for a few months, until taking up his duties in September in Tulane University, New Orleans.

Reviews and Notices of Books.

GRAVES DISEASE WITH AND WITHOUT EXOPHTHALMIC GOITRE. By W. H. THOMSON, M.D., LL.D., Physician to the Roosevelt Hospital: William Wood & Co., New York, 1904. Toronto, Chandler and Massey.

Although, as the writer mentions, there are more than 1400 treatises on the subject of Exophthalmic Goitre, he has nevertheless afforded his readers a most lucid description of the malady in all its interesting clinical features, and the work is a striking example of the value of careful clinical observation and complete records. The author emphasises the fact that the constitution and general derangements are what make up Graves disease while the thyroid condition is after all but a secondary feature. He has collected the histories observed by him in 70 cases, and of these 28 presented general manifestations of the disease without the goitre. The author gives a list of 28 general symptoms apart from exophthalmos and enlarged thyroid, which are peculiar to the disease. The nervous system symptoms are considered in detail; the tachycardia is regarded as a toxæmic condition and its persistence is especially noted as characteristic. The various tremors

are dealt with and especially those of the eyelids which are almost a constant feature. Great stress is laid upon the gastro-intestinal disorders which appear very early in the disease, in fact in the majority of cases it had occurred previous to the onset of other symptoms. Dr. Thomson regards these as the essential features in the symptomatology and believes that toxæmic conditions arise from disorders of the gastro-intestinal tract and then give rise to exophthalmic goitre. Nausea, flatulence and diarrhœa are the main symptoms noted, and so long as the diarrhœa persists no headway is possible in the treatment of the disease.

Another clinical feature of importance is the morning exacerbation of symptoms, and this he regards as of almost pathognomonic significance. The pathology is discussed and the conclusion is drawn that: "The goitres, as such, are always secondary results of toxins acting on the gland itself, and that the great difference in the constitutional symptoms of exophthalmic goitre is due to the universally acting blood poison generated, just as in parenchymatous goitre itself, elsewhere than in the thyroid, but which involved the gland only as many other organs are affected." The origin of the disease being, in his opinion, gastro-intestinal, the treatment is mainly directed to this tract. Intestinal antiseptics is regarded by him as one of the essential features in the cure of the condition. Surgical treatment is considered at some length and the conclusions drawn are unfavourable towards this procedure. The risks are too great to justify operation in the majority of cases, while on the other hand medicinal measures when properly employed can in most cases obviate the necessity of surgical treatment.

ELEMENTS OF GENERAL RADIOTHERAPY, for Practitioners, by Dr. Leopold Freund, Vienna. Translated by G. H. Lancashire, M.D., Brux., M.R.C.S. Eng., L.R.C.P. Lond., Assistant Physician to the Manchester and Salford Hospital for Skin Diseases. Rebman Company, 10 West 23rd Street, New York. London Agents: Rebman, Limited, 129 Shaftesbury Ave., London. W.C. Toronto. Charles Wingate, 190-1.

The general practitioner — and the expert radiographer also — may well study this volume, and be possessed of more knowledge, if less dogma.

The book is written by a master of the subject. His statements are clear and conclusive. His explanations of some of the less understood phenomena (e.g. the electrification of the ultimate atom or electron) are lucid, and the whole work free from the redundancy and interminable case reports so characteristic of some text books that arise to one's mind. While the work cannot fail to be of value to the large number

of practitioners anxious to have a definite and clear conception of therapeutic measure, rapidly coming more and more to the front, its chief results will be always obtained when used in conjunction with a course of electro-therapeutics, undertaken with the object of teaching the fundamentals of the subject.

In an eight page introduction the author gives a brief résumé of the position of modern science with reference to the later discoveries of radio-active substances, and the effect of these discoveries on electric and allied phenomena. Then follows a section on the elements of electricity, a marvel of condensation in which nothing material to the proper conception of the subject has been omitted.

High frequency currents and their therapeutic action cover 103 pages, and the section on Roëntgen or X-ray therapeutics takes another 164 pages. Becquerel-rays, perhaps more generally known as Radium-rays, occupy but 16 pages, and while not absolutely essential to the subject discussed, a reference to the three different varieties of rays isolated so far from the radio-active radium bromide would have been interesting, as offering a possible explanation of the resemblance in the action on the skin of the Becquerel rays and those generated in a Crooke's tube.

Radiant energy in the form of light and heat take up 157 pages, and is very thoroughly done, especially the light effects; Finzen's ultra-violet rays, ordinary white, and different coloured rays are gone into pretty fully. A couple of pages of addenda on the dosage of X-rays has little to add, and is not so explicit as the rest of the book. For the beginner more data should have been provided, and the literature on this subject is not wanting, either in England or in the United States.

No practical worker on X-rays would trust to any "Spartometer" or "Radiochromometer," knowing as he would, the variety of tubes and currents and even the variations in the same tube and coil from time to time apart from the idiosyncrasy or personal factor in the patient. This is the only part in the book one could wish to see extended.

The notes on instrumentation, 58 pages, by Clarence A. Wright, himself an expert radiographer, are invaluable. A very full index, and bibliography, serve to complete a book that will doubtlessly occupy a unique position in the subject which it covers.

The printing, paper, and illustrating leave nothing to be desired, and the paper is not glossy.

R. W.

THE EXTRA PHARMACOPEIA, revised by W. HARRISON MARTINDALE, PH.D., and W. WYNN WESTCOTT, M.B. Eleventh edition, London: H. K. Lewis, 136 Gower St., W.C., 1904.

Since the tenth edition of the Extra-Pharmacopœia was issued three

years ago, William Martindale, the originator of the book, has died, and the name of his son appears upon the title page in conjunction with that of Dr. Westcott which has been identified with it since the beginning, now more than twenty years ago.

A comparison of the present edition with the one next before shows many omissions and much new matter. Reference to many old drugs which used to be considered remedies is omitted and 300 new preparations are described, though the size and weight of the volume is less. The mass of recent pharmaceutical work has been abstracted, and there are fresh monographs upon radium, Roentgen rays, high frequency currents and their curative effects. There are also new sections upon mineral waters, bacteriology, antitoxins and organotherapy. The references are most useful and the present edition is entirely worthy of its predecessors.

MEDICAL DIAGNOSIS. By DR. WILHELM V. LEUBE. Translation from the Sixth German Edition. Edited with annotations by JULIUS L. SALINGER, M.D. New York and London; D. Appleton & Co., 1904.

Leube's *Specielle Diagnose der Inneren Krankheiten* requires no introduction to those who are acquainted with German medical literature, and the carefully prepared work with its lucid style and excellent arrangement of the essential features of diagnosis has placed it in the first rank of German medical works. This translation of its sixth edition should be gratefully received by all English readers who cannot master the original. The new edition has been much enlarged and the translation carries out the author's arrangement of topics in variously sized types to render the essential features more striking. A special value attaches to the paragraphs preceding each general section, which deal with matters of general importance in diagnosis, as anatomico-physiological considerations of the digestive tract, of the nervous system, physiological observations on metabolism, general remarks on infectious diseases, etc. The book is useful to all physicians; perhaps, more especially, is its value to be appreciated by teachers.

INTERNATIONAL CLINICS: a quarterly of illustrated clinical lectures and original articles; edited by A. O. J. KELLY, A.M., M.D. Vol. I, 14th Series: Philadelphia, J. B. Lippincott Company; Montreal, Charles Roberts, 1524 Ontario St.

These clinics are looked for with eagerness by every practitioner, who desires to know the best that has been done and thought in the past quarter of the year. The present volume contains that record, and, in addition is arranged with rare editorial skill. It covers treat-

ment, medicine, surgery, gynæcology, neurology and the progress of medicine and surgery during 1903. There are special articles upon the chlorid reduction treatment of parenchymatous nephritis, a clinical study of adonidin, the therapeutic application of colloid silver, and the cure of neurasthenia. The increased prevalence of pneumonia is considered, the application of cryoscopy to medicine, nephritis of gastrointestinal origin and the early diagnosis of pulmonary tuberculosis. Under Surgery there is an ample review of angioma, of the methods of intestinal anastomosis; observation on gastric, intestinal and liver surgery as practised in Germany. The above covers only a portion of the contents; there is in addition a careful review of all methods of treatment of the more important disease, but it is sufficient to indicate the range and value of the volume.

PROGRESSIVE MEDICINE. A Quarterly Digest edited by Hobart Amory Hare, M.D., and H. R. M. Landis, M.D., June, 1904. Lea Brothers & Company, Philadelphia and New York.

This volume, being the second for the year, appears promptly, and covers the surgery of the abdomen, including hernia, gynæcology, diseases of the blood, diathetic and metabolic diseases, diseases of the spleen, thyroid gland and lymphatic system, and ophthalmology. The contributors to the volume are John G. Clark, William B. Coley, Edward Jackson and Alfred Stengel. In the April number of this JOURNAL notice was taken of Progressive Medicine in its altered form. The section by Stengel, upon diseases of the blood, etc., is especially worthy of note. We fail to find any mention of the progress of medicine as affected by work done in Canada.

OBSTETRIC AND GYNECOLOGIC NURSING. By EDWARD P. DAVIS, A.M., M.D., Professor of Obstetrics in the Jefferson Medical College: 402 pages, fully illustrated. Second edition, thoroughly revised. Philadelphia, New York, London. W. B. Saunders & Company, 1904. Toronto: J. A. Carveth & Co. Price, \$1.75 net.

This book is intended for nurses in training for the care of lying-in women. Obstetrical nurses are ever prone to magnify their office, hence we question the wisdom or truth of the statement on the opening page, "few patients are so absolutely healthy that pregnancy and childbirth proceed in a perfectly normal way." The recital of the facts pertaining to the condition is clear and based upon sound physiological knowledge. The directions given are minute yet not excessively refined, and physicians as well as nurses would be profited by a perusal of this book.

THE CANADIAN ANNUAL REVIEW OF PUBLIC AFFAIRS, 1903. G. J. CASTELL HOPKINS. Toronto, The Annual Review Publishing Co., 1904.

This book of six hundred pages is invaluable to all who have occasion to refer to any of the events, which have happened in Canada last year. Nothing of importance is omitted and the record is presented fully and justly.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, comprising ten volumes, issued monthly. GUSTAVUS P. HEAD, M.D., Vol. V., Obstetrics. Edited by JOSEPH B. DELEE, M.D. April, 1904. Volume VI. General Medicine, May, 1904. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, 40 Dearborn Street, Chicago.

THE MOTHER'S MANUAL, by EMELYN LINCOLN COOLIDGE, M.D. New York: A. S. Barnes & Co., 1904.

ANNUAL REPORT OF THE SURGEON GENERAL OF THE PUBLIC HEALTH AND MARINE HOSPITAL SERVICE OF THE UNITED STATES, 1904.

Medical News.

THE MEDICAL CONVOCATION.

The seventy-second convocation of McGill University for conferring degrees in the Faculty of Medicine was held on the 10th of June in the Windsor Hall. Judge Archibald presided, and the degrees were conferred by Dr. C. E. Moyse, the vice-principal.

Eighty-two students, who had completed the full course and passed all the examinations, obtained the degrees of Doctor of Medicine, and Master in Surgery. Their names are as follows:

Ainley, L. J., B.A., Almonte; Ainley, W. E., B.A., Hamilton, Bermuda; Alford, J. H., Ottawa; Atkinson, H. S., Hants Harbor, Newfoundland; Bentley, S. K., B.A., Truro; Black, J. C., Oxford; Bonin, R. P., Montreal; Charman, F. D., Wallace; Chipman, W. W., Ottawa; Coffin, J. W., Mount Stewart. P.E.I.; Cook, W. J., Coboconk; Crack, I. E., B.A., Kingsbury; Cram, W. J., Philadelphia; Crosby, P. C., Marshfield, P.E.I.; Crowell, B. C., B.A., Yarmouth; Davidson, H. D., Sherbrooke; Dillon, W. P., Iroquois; Douglas E., B.A., Halifax; Dunn, J. F., Elgin; Eaton, C. E., Stanbridge; Faulkner, J. A., B.A., Stirling; Fisher, E. M., Blue Bonnets; Fisher, F., Bay of Islands, Newfoundland; Folkins, C. G., Millstream. N.B.; Ford, H. S., Vancouver; Fraser, S., Leeds; Fyshe, J. C., A.B., Montreal; Gibson, G. M., Huntingdon;

Gibson, R., Nanaimo; Gillis, J. E., Darlington, P.E.I.; Gilroy, J. R., Springhill, N.S.; Gormely, J. C., Finch, Que.; Graham, R. W., Sawyerville; Grant, N. P., Woodstock; Greenwood, W. T., St. Catherines; Harrison, L. L., B.A., Maccan, N.S.; Hogan, F. J., Tignish, P.E.I.; Hotchkiss, E. A., Collinsville, Conn.; Howitt, H. O., Guelph; Hutchinson, J. W., Montreal; Johnson, J. G. W., M.A., Montreal; Judson, A. H., Lynn, Ont.; Kerr, H. H., Washington; Keys, M. J., Hulbert, Ont.; Lauchland, L. C., B.A., Oshawa; Lincoln, W. A., Stanstead; Lippiatt, H. T., Montreal; Losier, A. J., Tracadie; MacKenzie, A. B., Springfield, P.E.I.; MacKid, L. S., Calgary; MacIntosh, L. de C., Dundela, Ont.; McKenzie, R. P., Rossland; McKenty, F., Bath, Ont.; MacLachlan, D. C., Lochaber Bay, Que.; Markson, S. M., Glen Robertson; Martin, J. C., Whitechurch, Ont.; Meakins, J. C., Hamilton; Miller, Clarence, Stellarton; Miller, V. L., B.A., Bear River, N.S.; Murphy, H. H., B.A., Antrim, Ont.; Nagle, S. M., Almonte; Nutter, J. A., B.A., Montreal; Park, A. W., Durham, Ont.; Preston, C. E., Ottawa; Price, Joseph, Campbellton; Quain, B. P., Brushton, N.Y.; Rankin, A. C., Montreal; Reford, L. L., B.A., Montreal; Richardson, C. A., East Jefferson, Maine; Richardson, C. A. C., B.A., Sydney; Robinson, J. L., St. Marys, Rogers, J. T., B.A. Montreal; Sellery, A. C., Kincairdine, Ont.; Sims, H. A., Montreal; Stewart, J. A., Norboro, P.E.I.; Tanner, C. A. H., Windsor Mills; Warwick, W., St. John; Wilson, O. M., Smith Falls; Wilson, T. R., B.A., Carp, Ont.; Wood, H. G., Faribault, Minn.; Wright, G. A., Stoney Creek, N.B.; Yorston, F. P., M.A., Newcastle.

The Holmes gold medal, for the highest aggregate in all the subjects forming the medical curriculum, was awarded to J. A. Nutter, B.A., Montreal; the final prize for the highest aggregate in the final subjects was awarded to J. L. Robinson, of St. Mary's. The honour list in the aggregate of all subjects was as follows: J. L. Robinson, J. A. Nutter, B.A., W. A. Lincoln, J. C. Meakins, V. L. Miller, B.A., F. McKenty, J. C. Fyche, A.B., J. W. Coffin, J. E. Gillis, J. A. Faulkner, B.A.

The address for the graduates was read by Dr. C. L. Robinson, and Dr. T. J. Halsey delivered the reply on behalf of the Faculty.

Dr. T. G. Roddick, the Dean, read the report of attendance, from which it appeared that the total number of students registered in the Faculty of Medicine was 415. In the first year were 108, in the second year, 106; in the third year, 88; in the fourth year, 100; graduates, 13.

In the absence of Dr. Craik, on account of illness, Dr. Roddick read for him a memorandum upon the subject of the preliminary qualification for the study of medicine, the text of which follows:

Before the proceedings of this convocation are brought to a close,

I have deemed it expedient to lay before it a brief statement of the relations between the College of Physicians and Surgeons of the Province of Quebec and this university, with its medical school. I do so, not as the mouthpiece of the university, nor of its medical faculty, but as one of the two representatives of McGill University on the provincial medical board, a position which I have held for more than twenty years.

The College of Physicians and Surgeons of the Province of Quebec, with its cumbersome and misleading name, for it does no teaching, is an incorporated body, consisting practically of all the licensed practitioners in the province in good standing. It controls the admission to study, the curriculum or course of study, and the right to practice medicine, surgery, and midwifery in every part of the province of Quebec. This it does through an executive board of governors, usually called the Provincial Medical Board, elected every three years in electoral districts, by ballot, to the number of thirty-five, and eight additional governors, elected by the four active medical schools in Montreal and Quebec, two for each school, making in all an executive board of forty-three members.

This board meets only twice a year; once in Montreal in July, and once in Quebec in September. The sessions of the board are rarely, if ever continued beyond the one day of meeting, much of the business, of course, being prepared during the intervals by committees. The English-speaking members are about one-sixth or one-seventh of the whole, and are, of course, permitted to use their own language, and for their benefit motions and explanations are always willingly translated into English when so desired; but, at least, nine-tenths of the proceedings are conducted in the French language. As regards by-laws, rules and regulations, no distinction is made between French and English, Catholics and Protestants. Broadly speaking, nearly all the French-speaking governors are Catholics, and nearly all the English-speaking governors are Protestants. There are, of course, a few exceptions. I use the word Protestant for lack of a better word.

I need scarcely say that in a mixed gathering of this kind, where so large a majority is French, the English minority is treated with the utmost courtesy and consideration, and I gladly bear testimony to that fact; but at the same time, as might naturally be expected, the opinions and the methods of the majority must prevail, except in so far as the majority may, occasionally, of its grace, grant some privilege as a special favor.

On professional matters we seldom have any favor to ask. Our own medical curriculum more than meets the requirements of the Provincial Board: and the principles of medical science, as well as the practice

based upon them, are, or ought to be, the same all over the civilized world.

With regard to the matriculation, or entrance examination, however, the case is entirely different. This examination must be passed before a student can even begin the study of medicine, and there is nothing professional about it. It is purely literary and secular, and here there has always been difficulty and a divergence of opinion. It is not that the board demands a higher or broader standard of knowledge, in its preliminary examination than we have been willing to submit to, but it is a standard different in kind rather than in degree, in manner rather than in matter, and one with which we find it difficult and sometimes impossible to comply; not from lack of capacity or willingness, but because our English Protestant system of education in this province does not furnish the kind of knowledge or training required, and has few or no residential schools or colleges.

I freely admit that the preliminary examination of to-day compares favourably with the same examination a number of years ago, and if there were any certainty of its permanence, it would probably be safer to continue to submit to it, rather than to seek a change. Under present arrangements, however, there seems to be no reasonable assurance of permanency, and the extraordinary, and, indeed, revolutionary changes which have only recently been proposed in the direction of the Cours Classique Complet, with its eight years in residential colleges, and from which we only narrowly escaped, would seem to suggest the necessity for a supreme effort to secure to the English-speaking Protestant inhabitants of the province the same independent control over this examination as our French Catholic fellow-citizens have all along enjoyed.

There is nothing unreasonable in this. It is not a question of nationality nor religion. It is simply the difference between the two systems of education, their incompatibility, even in a purely secular sense, and the impossibility of the one framing a code for the other without creating more or less dissatisfaction.

This is clearly recognized and provided for by law, in all the secular schools of this province, where the two systems of education are kept entirely separate; and controlled by two separate committees of the Council of Public Instruction, one for the Catholic and the other for the Protestant schools; each carrying out its own system and methods without interference from the other.

It seems obvious, therefore, that the only safe and fair way to deal with this purely secular matriculation examination, with perfect justice to the whole population of the province, is to place it where it ought

always to have been, under the jurisdiction of the Council of Public Instruction, with its two separate committees; and thus put an end to all suspicion of unfairness, no matter how unfounded the suspicion may be. There is no other remedy that is likely to be effectual or permanent. Moreover, it has the sanction of the law of the land, and it is entirely antecedent to any professional study whatsoever.

Even the partial remedy of a B.A. degree, provided by the so-called Lynch's Bill, but which is only within the reach of a comparatively small number of our students, is no longer secure. During the last session of the Quebec Legislature, Dr. Lacombe introduced a bill providing for its repeal, and although the bill was subsequently withdrawn, its withdrawal was accompanied by a statement, publicly made, that it would be reintroduced in the not distant future.

The only other suggested alternative, although it has never taken definite shape, is in the direction of a complete high school or academy course equivalent to the Cours Classique Complet. Even if such a course were accepted, it would still leave a large majority of our students unprovided for, unless their parents were willing, at great expense, to send their sons at a tender age to live at large in a great city, without parental care, and exposed to all its temptations and dangers.

In seeking, therefore, a safe and lasting settlement of this chronic and disturbing difficulty, by a reference to the only legitimate tribunal, we feel that we are only asking our friends of the majority to help us to secure our rights, without doing wrong to themselves; to help us to remove from our common path everything that might possibly lead, in however slight a degree, to distrust or discord, and to enable us together to pursue in harmony and mutual confidence, the work of training our young men to be high-minded and earnest members of the noblest of all professions.

ONTARIO MEDICAL ASSOCIATION.

The twenty-fourth annual meeting of the Ontario Medical Association was held in Toronto in the medical building of the University of Toronto, June 14th, 15th and 16th, under the presidency of Dr. J. F. W. Ross. The following programme was submitted:

Hydatidiform Mole and its relation to Chorion Epithelioma, with report of cases, by C. J. C. O. Hastings, Toronto.

Anomalies in Fœtal Development, by J. H. Peters, Hamilton.

Occipito—Posterior Presentations, by A. A. Macdonald, Toronto.

Peritoneal Inflammations during Pregnancy, by John Sheahan, St. Catharines.

A restatement of the attitude of the Profession towards Placenta Prævia, by K. C. Mellwraith, Toronto.

Report of a case of Bilateral Congenital Dislocation of the Hips treated by the Lorenz Bloodless Method. A brief review of the present status of the Lorenz Method, by H. P. H. Galloway, Toronto.

Thoughts on Cancer, by Sir Wm. Hingston, Montreal.

Pain in the upper Abdominal Zone—its causes and diagnosis, by Geo. Hodge, London.

The arid regions of the United States, their therapeutic indications in Pulmonary Tuberculosis, by J. Frank McConnell, Las Cruces, N.M.

Demonstration of Technique of Intestinal Anastomosis by Elastic Ligature or other devices, by N. A. Powell, Toronto.

Chest Examinations—a system of recording observations, by J. H. Elliott, Gravenhurst.

Report of a case of Resection of the Cæcum for Carcinoma, by H. A. Bruce, Toronto.

A critical review of the subject, Lithotomy versus Litholapaxy, by C. B. Shuttleworth, Toronto.

The Medical Referee's relation to the Examiner, by Dr. Jas. Thornburn, Toronto.

The treatment of Ophthalmia Neonatorum and its complications, by Perry Goldsmith, Belleville.

Influence of Heredity upon the expectancy of Life, by H. R. Frank, Brantford.

Expectancy of Life in morbid conditions of the Genito-Urinary System, by F. Le M. Grasett, Toronto.

Expectancy of Life in morbid conditions of the Cardio-Vascular System, by R. J. Dwyer, Toronto.

Expectancy of Life in morbid conditions of the Respiratory System, by Edw. Ryan, Kingston.

Expectancy of Life in morbid conditions of the Nervous System, by H. C. Scadding, Toronto.

The influence of the Plan on the acceptance of Risks for a Life Insurance Company, by Percy C. H. Papps, Toronto.

The financial responsibility of the Life Insurance Examiner, by R. L. Riordan, Toronto.

Some cases illustrating difficulties of diagnosis and treatment of Tumors, by Wm. Oldright, Toronto.

Enlargement of the Prostate gland, by F. W. Marlow, Toronto.

Surgical Relief of Enlargement of the Prostate, by Geo. A. Bingham, Toronto.

The treatment of Prostatic Hypertrophy, by T. K. Holmes, Chatham.

Neurasthenia in some of its relations to Insanity, by J. Campbell Myers, Deer Park.

The relative importance of the Clinical and Bacteriological Evidences in Diphtheria, by Charles Sheard, Toronto.

The uncertainties of diagnosis and the necessity of early and vigorous treatment of Diphtheria, by T. F. McMahon, Toronto.

Diagnosis of Modified Smallpox, by Chas. A. Hodgetts, Toronto.

Strain in relation to diseases of the Heart and Aorta, by H. B. Anderson, Toronto.

Clinic on Skin Diseases, by A. McPhedran and H. B. Anderson, Toronto.

A group of cases of Malignant Disease, by R. N. Fraser, Thamesville.

The Surgical relief of Epilepsy, by A. Primrose, Toronto.

Some of the newer methods of Diagnosis in Kidney cases as applied to Renal Surgery, by W. A. Hackett, Detroit.

Anæmias, more than ordinarily severe, by Frank Trebilcock, Enniskillen.

Inflammations of the Lachrymal Apparatus, by G. Herbert Burnham, Toronto.

Diagnosis of Functional Heart Murmurs, by R. D. Rudolf, Toronto.

A Report of the work at the Muskoka Free Hospital, by C. D. Parfitt, Gravenhurst.

Lympho-Sarcoma, by B. Z. Milner, Toronto.

Report of a case of Double Otitis Media, with Mastoid Involvement—Operation and termination in fatal Purulent Leptomeningitis, by D. J. Gibb, Wishart, Toronto.

Notes of an uncommon case of Rectal Surgery, by E. Clouse, Toronto.

The officers elected for the ensuing year are: President, Dr. Wm. Burt, Paris; 1st Vice-President, Dr. J. L. Davison, Toronto; 2nd Vice-President, Dr. Geo. Hodge, London; 3rd Vice-President, Dr. Edward Ryan, Kingston; 4th Vice-President, Dr. F. H. Middleboro', Owen Sound; General Secretary, Dr. P. Lusk, Toronto; Assistant Secretary, Dr. Samuel Johnston, Toronto; Treasurer, Dr. Frederick Fenton, Toronto.

BRITISH MEDICAL ASSOCIATION

The seventy-second annual meeting of the British Medical Association will be held at Oxford on Tuesday, Wednesday, Thursday and Friday, July 26th, 27th, 28th and 29th, 1904.

President: Thomas Dryslwyn Griffiths, M.D.Lond., M.R.C.S., Swansea.

President-elect: William Collier, M.D., F.R.C.P.Lond., Physician,

Radcliffe Infirmary, Oxford, and Litchfield Lecturer in Medicine, University of Oxford.

Chairman of Council: Andrew Clark, F.R.C.S., Surgeon to the Middlesex Hospital and Lecturer on the Principles and Practice of Surgery.

Treasurer: Edward Markham Skerritt, M.D., F.R.C.P.Lond., Senior Physician to the Bristol General Hospital; Professor of Medicine, University College, Bristol.

An address in Medicine will be delivered by Sir William Selby Church, Bart., K.C.B., M.D.

An address in surgery will be delivered by Sir William Macewen, M.D., F.R.C.S., LL.D.

A popular lecture will be delivered by Dr. G. Bagot Ferguson, F.R.C.S., M.Ch.Oxon.

MANITOBA MEDICAL COLLEGE.

The faculty of the Manitoba medical college have secured a site for the new college which it is proposed to erect. The block purchased has a frontage on Bannatyne and McDermot streets, of 330 feet by 266 feet deep. It comprises ten lots on Bannatyne, and ten on McDermot, and is separated by the width of a street from the general hospital buildings. With the growth of the college during the past few years, the need of a larger building has been urgently felt, and several different locations have been proposed for it. During the winter the faculty made a proposal to the university council with regard to a site on the university campus. This proved to be not available on terms which could be accepted by the faculty. The location near the hospital is considered by many to be a very much better one. While no definite plans have yet been made, it is altogether likely that the work of erecting a college building will be begun this season, and completed in time for use during the term of 1905-6.

ROYAL VICTORIA HOSPITAL.

Report for month of May: patients admitted during month, 285; discharged, 266; died, 18; medical, 107; surgical, 116; ophthalmological, 29; gynæcological, 24; laryngological, 9. Outdoor department: medical, 672; surgical, 303; eye and ear, 295; diseases of women, 81; nose and throat, 238; total, 1,589. Ambulance calls, 65.

The governors of the Royal Victoria Hospital have made the following appointments to the resident medical staff for the year ending August 31, 1905: Admitting officer, Dr. R. King; physicians, Drs. R. Hardisty, D. McKechnie, J. C. Meakins, W. A. Lincoln; surgeons, Drs. H. Church, F. McKenty, J. Collin, J. A. Faulkner, D. C. McLachlan;

eye and ear, Dr. L. C. Lauchland; nose and throat, Dr. H. O. Howitt; gynæcologist, Dr. J. Forster; anæsthetist, Dr. F. D. Charman; locum tenens in medicine, Dr. J. E. Gillis; locum tenens in surgery, Dr. J. W. Hutchinson; externe in medicine, Dr. J. R. Rogers.

MONTREAL GENERAL HOSPITAL.

The board of management of the Montreal General Hospital has appointed Dr. R. P. Campbell as medical superintendent. The new members of the house staff who will commence their duties in September, are as follows: Drs. R. D. Forbes, anæsthetist; J. L. Robinson, J. C. Fyche, W. G. Ricker, J. A. Nutter, L. L. Reford, H. H. Kerr, H. G. Wood, physicians; Drs. A. C. Rankin and W. E. Ainley, locum tenens.

During the month of May, 1904, there were admitted to the wards of the hospital 263 patients; there were 24 deaths; 2,688 patients were treated in the outdoor department. The ambulance responded to 132 calls.

NOTRE DAME HOSPITAL.

At the meeting of the board of governors of the Notre Dame Hospital, on June 14th, the medical staff for the ensuing year was announced: Medical superintendent, Dr. Fleury; assistants, Dr. Riopel, Dr. Rousseau, Dr. Racicot, Dr. Demers, and Dr. Parizeau. The only changes in the staff are Drs. Demers and Parizeau, who replace Drs. Leduc and David.

Dr. J. A. Leduc, who has been house surgeon at the hospital for two years has been appointed medical superintendent of the new Notre Dame Contagious Diseases Hospital.

WESTERN GENERAL HOSPITAL.

The following is the report of the Western Hospital for May: Indoor department: admitted 58, discharged 52, died 3. Outdoor department: consultations 576, divided as follows: 207 medical, 76 surgical, 97 gynæcological, 85 eye and ear, 56 nose and throat, 9 skin, 46 genito-urinary.

The erection of the new hospital in Goderich was commenced on June 9th.

There were forty graduates in medicine at Laval University at the end of the session which has just closed.

Dr. V. H. Moore, of Brockville, died on the 8th of June in

the 56th year of his age. In 1889, Dr. Moore became vice-president of the College of Physicians and Surgeons of Ontario, and president in 1890. He was made a fellow of the Royal College of Physicians and Surgeons of Kingston in 1890. He had also been vice-president of the Ontario Medical Association and of the Association of Military Drill Officers of Canada. He was made an LL.D. by Queen's in 1903, and was a member of the council of that university.

Dr. Gaspard Archambault, of Montreal, died on the 14th of June, 1904, after a long illness. He was a graduate of Victoria University, in 1873, and ten years later was appointed professor of anatomy and dermatology in Laval.

Dr. C. L. Cotton, of Cowansville, died at the Montreal General Hospital on June 15th as a result of blood poisoning received during the performance of an operation. Dr. Cotton was 47 years of age and a graduate of McGill in 1877.

Dr. Charles Walton Chafee died in Toronto on the 25th of May. The cause of death was pneumonia.

Dr. Frederick S. Wade, of Port Maitland, Nova Scotia, died on the 27th of May, in the 42nd year of his age.

Dr. Reginald Henwood, of Brantford, one of the oldest practitioners in Brantford died on the 22nd of May in the 76th year of his age.

Dr. C. P. Cameron, of Westville, Nova Scotia, died on the 26th of May, of pleurisy. He was a graduate of Dalhousie and 25 years old.

Dr. John A. Marshall, of Belleville, died on the 31st of May.

Retrospect of Current Literature.

SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

WILLIAM TAYLOR, B.A., M.B., *Dubl. F.R.C.S.I.* "Some cases of Intestinal Obstruction successfully treated." *Dublin Journal of Medical Science*, May 2, 1904.

This interesting contribution embraces thirteen cases, five of which were caused by malignant disease, of which three were situated in the rectum, one was in the cæcum, and one in the hepatic flexure. Three cases were due to intussusception. Two were caused by bands, evidently the result of a former peritonitis. One was due to a pushing of the gut through a hole in the omentum; another to a band stretch-

ing from the omentum and adhesions between the intestinal coils lying in the pelvis; and one of adynamic obstruction, resulting from a spreading infection from an abscess in the abdominal wall. The clinical pictures were all suggestive of intestinal obstruction, the nature of the obstruction being also fairly apparent. With reference to the cases due to rectal cancer, the writer very correctly states that sufficient attention is not paid by the general practitioner to the attacks of diarrhoea which are present in the great majority of cases, and he advises digital examination of the rectum as an imperative duty on the part of the doctor in charge. Intussusception is thought to be the most common cause of acute obstruction, the mortality higher than usually given since many cases are not diagnosed, while quite a number operated upon are not reported. Strangulation due to bands is, perhaps, the most satisfactory, as the symptoms are usually acute and operative interference early sought for. In these cases there is generally a considerable disturbance of the circulation and nerve supply of the parts, and the severity of the symptoms is almost always directly proportionate to the suddenness and extent to which the normal circulation is impeded and the innervation interrupted. On the other hand, acute obstruction due to adhesions, if at all extensive, is the most unsatisfactory form to treat, as separation is tedious and difficult, the patient frequently sinking under the prolonged operation, while in those cases when recovery takes place the reformation of adhesions is not at all unlikely. In cases due to stricture, whether simple or malignant, if urgent the best method is temporary drainage with subsequent removal of diseased part and an anastomosis. If not urgent, resection and an end-to-end anastomosis gives good results. When excision is impossible a short circuiting operation is advised and preference given to the implanting of the cut end of the upper part of the bowel into the lower, thus preventing faecal matter from passing into the obstructed loop. A very important suggestion regarding the treatment of the distended gut after the cause of obstruction has been relieved is to wash out the intestinal contents. This is done by making a small wound in the jejunum through which an irrigating nozzle is introduced and a similar opening in the ileum just above the obstruction and irrigating throughout the entire course. In those cases when the obstruction has been relieved and death takes place it is due to absorption of the poisonous contents of the intestine, and if this material be washed out many lives should be saved. This method requires less time than multiple punctures, and is evidently greatly superior to a single puncture. Gastric lavage both before and after operation is recommended.

ROBERT B. GREENOUGH, M.D. "Enterostomy in Peritonitis." *Boston Medical and Surgical Journal*, May 19, 1904.

This excellent article is based upon a study of forty-one cases of diffuse peritonitis from the Massachusetts General Hospital. The subject is introduced by giving a short history of the surgical procedures in cases of intestinal obstruction, credit being accorded to Paul, of Liverpool, who, in 1892, published a paper in which he reported the use of his tube in cases of acute mechanical obstruction and peritonitis and in resection of the colon. To Mixter belongs the credit of employing a similar tube in the treatment of paralytic obstruction. To sum up the points covered in the paper it may be said that the obstruction of the intestines in diffuse peritonitis is the result of a combination of causes; the most important being suspension or paralysis of peristalsis due to inhibition, to toxic paralysis, and to the paralysis of distension. Mechanical causes such as infiltration of the bowel wall and light adhesions contribute in certain cases to this paralysis. Pure mechanical obstruction due to adhesions is the result of chronic or local peritonitis of at least some days' duration.

Enterostomy is indicated in addition to other operative measures in the graver forms of diffuse peritonitis, the greatest advantage being the drainage of the gases and decomposing contents of the bowel and the relief of paralysis of peristalsis, while at the same time it allows the surgeon to obtain direct control over the intestines for lavage and for the introduction of stimulants, nourishment, fluids and cathartics. Relief of paralysis of peristalsis is best secured by a primary enterostomy rather than by a secondary operation. Enterostomy is best performed by the use of the Mixter tube, the cæcum being the most satisfactory part of the bowel for a primary operation while the jejunum is to be avoided. Spontaneous closure of the fistula may be expected when the cæcum is opened, if the opening is kept below the level of the parietal peritoneum. By the systematic use of enterostomy in the graver forms of diffuse peritonitis the number of patients dying on the second, third and fourth days after operation is reduced. The symptoms of visible peristalsis and spasmodic pain in intestinal obstruction indicate a mechanical cause for the obstruction, and persistence of these symptoms, unrelieved by enemata and cathartics, is an indication for operation, the cause of the obstruction being removed if possible. In advanced cases of obstruction of this form, enterostomy of the coil of intestine nearest above the obstruction should be done. An abstract of the cases is given.

W. SCOTT SCHLEY, M.D. "The use of Rubber Tissue and Boracic Acid in the Treatment of Surface Granulating Wounds and Especially of the Varicose Ulcers of the Leg." *Medical Record*, June 4, 1904.

This form of treatment has given very good results in the hands of the writer. The combination of boracic acid and rubber tissue is recommended for the rapid epidermization of the broader, exuberantly or freely granulating surfaces. The dressing is not a dry one since the rubber tissue prevents evaporation. The total wound discharge is less than when gauze dressings are used. The antiseptic, astringent and sweetening action of boric acid permits of the advantage of infrequent dressings, once every five or seven days being sufficient. It gives the best results when applied to the softer granulating surfaces, but gives good results also where the granulations are firm. It has not been employed in ulcers with gangrenous or sloughy bases, but has worked well in large indolent ulcers, without, or with scanty granulating surfaces.

GEORGE M. EDEBOHLS, M.D. "Renal Redecapsulation." *Medical Record*, May 21, 1904.

This is the first case reported of its kind, and was performed on a patient with chronic Bright's who had had the kidneys decapsulated two years previously. For about six months after the first operation he was doing well, when symptoms of pyelonephritis developed, which condition improved somewhat under treatment, but never entirely cleared up, as he gave a history of several exacerbations. Cystoscopic examination showed inflammation of the prostatic urethra and of the trigonum vesicae, hyperaemia of the mouths of the ureters, and a nearly healed prostatic abscess which was still discharging small quantities of pus into the urethra. Under treatment the bladder and urethral conditions improved, but the renal infection persisted. The case declined operation and went from bad to worse, an increasing anæmia and deepening uræmia coming on. The second operation was performed when the patient was practically moribund. The kidneys were found to be anchored to the abdominal wall in the lumbar region, completely covered by the fatty capsule, and the new capsule proper was thinner and perhaps more transparent than the original capsule and peeled off with no greater difficulty. There was not the slightest evidence of compression of the kidney by the new capsule. The perirenal fat was well vascularized. The kidneys were found to be the same size and pre-

sented the same gross appearance of chronic interstitial nephritis as at the first operation, but were decidedly less hard and more succulent to palpation. The uræmia remained uninfluenced, the case dying in coma five hours later, but a matter of considerable practical interest is the fact that the flow of urine was started by the operation though too late to save his life. The three chief points of interest are the nullification of the usual good effects of renal decapsulation by persistent chronic infection of the genito-urinary tract, the mediate and practically normal fixation of both kidneys as a result of simply dropping the organs back into their fatty beds after decapsulation, and the prompt effect of decapsulation in relieving complete anuria. Redecapsulation is indicated in chronic Bright's where after a more or less protracted period of improvement following a first decapsulation the clinical symptoms return or become aggravated, that is in those cases of uræmia and of failure of kidney function characterized by a steady diminution in the amount of the daily output of urea.

B. G. A. MOYNIHAN, M.S. Lond., F. R. C. S. Eng. "On the Removal of the Gall-Bladder in Operations for Gall-Stones." *Lancet*, April 30, 1904.

In a concise article the writer puts himself on record as in favour of cholecystectomy in all or almost all cases of gall-stone disease requiring surgical treatment. The removal of the gall-bladder does not involve a greater risk than cholecystotomy. The advantages of cholecystectomy are that the operation removes the chief source of the disease: that it thereby prevents, in a great measure, a recurrence either of stones or of the inflammation which betokens their presence; that growths in the gall-bladder or adhesions around it are subsequently impossible, and that the wound, if drainage is not required, will heal throughout by first intention. The gall-bladder is devoid of any strikingly useful purpose, and its removal does not interfere with digestion, so that if not useless it can quite well be spared. The presence of stone in the common duct does not prohibit the operation, but drainage of the duct after removal of the stone from it or the ampulla is necessary. The one disadvantage which may be urged against cholecystectomy is that if a later operation should become necessary—for stones can and do form in the hepatic and common ducts the operation would be more difficult and almost certainly more dangerous. The possibility of a further operation being necessary cannot be denied, but the likelihood of it is negligible.

MEDICINE.

UNDER THE CHARGE OF JAMES STEWART, F. G. FINLEY H. A. LAFLEUR AND
W. F. HAMILTON.

EUGENE L. OPIE, M.D. "Lesions peculiar to the Pancreas and their Clinical Aspect." *Med. News*, May 21, 1904.

Although the pancreas is an important organ, subserving several distinct functions, yet the clinical evidence of even extensive disease is frequently extremely obscure.

This obscurity is due to a variety of causes. The organ is deeply seated in the abdomen, and is rarely palpable in health or disease. The secretion of the pancreas is of great importance in digestion, yet it is only when it is almost or completely prevented from reaching the intestine that it gives rise to symptoms. There is no obvious symptom like that of jaundice seen in obstruction of the hepatic ducts.

The knowledge that pancreatic disease is frequently associated with more obvious clinical conditions such as disease of the liver, or its ducts, or of the duodenum, will often prove of value as evidence of disease of this organ.

In obstruction of the pancreatic duct there is a characteristic lesion resulting from the presence of the glandular secretion in the tissues. This is the so called fat necrosis in the adipose tissue of the abdominal cavity, consisting in small opaque white foci, which give an important clue to the surgeon on opening the abdomen of the presence of pancreatic disease. Acute hæmorrhagic pancreatitis is most frequently associated with fat necrosis, but it may also occur in suppurative pancreatitis, in chronic intestinal pancreatitis or in obstruction of the pancreatic duct by biliary or pancreatic calculi.

That the penetration of pancreatic secretion to the tissues is responsible for fat necrosis is shown by experimental evidence. Langerhaus showed that fat necrosis is due to splitting of fat into glycerin, which is carried away, and insoluble fatty acids which remain within the fat cells. This splitting is doubtless accomplished by the fat splitting ferment of pancreatic juice, and Flexner was able to demonstrate a fat splitting ferment in the foci of fat necrosis. Ligation of the pancreatic ducts of the cat also induces fat necrosis, and this results much more rapidly when the pancreatic secretion is stimulated by pilocarpine.

Acute hæmorrhagic pancreatitis is uncommon, but of such severity that death may result within forty-eight hours of its origin. In typical cases the individual, who has previously been in good health, or suffered from attacks of abdominal pain, is suddenly seized with violent epigastric pain, accompanied by uncontrollable vomiting, and soon followed by collapse. The localisation of the pain and the severity of the onset

are the most characteristic features, and in some cases make a diagnosis possible. Not infrequently the symptoms are less severe, the patient survives several weeks and an ill-defined tumor appears over the region of the pancreas. Fever and leucocytosis form further evidence of suppuration.

A considerable proportion of cases of acute pancreatitis are associated with gall-stones. Opie gives reasons for believing that pancreatitis is most likely to arise when a stone blocks the outlets of the common orifice of the ductus choledochus, and canal of Wirsung, so allowing of the entry of bile to the pancreas. As experimental results show that the injection of bile, and indeed of various irritating substances to the pancreatic duct, is capable of setting up pancreatitis, this view is an attractive one, and it also serves to explain the immunity of the pancreas in most cases of bile stones.

Chronic pancreatitis results from obstruction or ascending infection of the duct of the gland. When occlusion of the ducts occurs there is an overgrowth of connective tissue, destroying the acini, but usually sparing the peculiar islands of Langerhaus.

Occlusion of the duct usually results from calculi formed within the pancreas, from biliary calculi or from cancer. It is in these cases that the digestive disturbances attributed to pancreatic disease have usually been observed. Fitz collected 29 cases in which fatty stools were observed during life. In fourteen cases cancer was present, in seven calculi, and in two the duct was obstructed. The small number of these cases indicate how little reliance can be placed on fatty stools as evidence of pancreatic disease.

Both Riedel and Mayo Robson have pointed out the surgical importance of recognising chronic interstitial pancreatitis in connection with gall-stones. Both have pointed out that in a certain number of cases the head of the pancreas is enlarged and indurated and highly suggestive of carcinoma. In several instances a serious prognosis has been disproved by the subsequent course of the malady. Mayo Robson has described several cases of cholelithiasis with chronic pancreatitis and attaches considerable clinical importance to the latter condition, believing that it causes severe pain in the epigastrium and mid-scapular region, vomiting and loss of weight and strength. Cholecystotomy with drainage of the gall-bladder, and when necessary removal of the gall-bladder has been followed by recovery.

The remainder of the paper is devoted to the glycolytic function of the pancreas, and the peculiar relationship of the islands of Langerhaus to diabetes.

Opie regards arterial sclerosis and diabetes as having more than an

accidental association, and believes that an advanced degree of arterial sclerosis of the pancreatic vessels is responsible for a certain number of cases of diabetes.

RAW. "Primary Intestinal Tuberculosis in Children." *Brit. Med. Jour.*, May 28, 1904.

SYMES and FISHER. "An Inquiry into the Primary Seat of Infection in 500 Cases of Death from Tuberculosis." *Brit. Med. Jour.*, April 16, 1904.

HUNTER. "The Occurrence of Primary Tuberculous Infection of the Intestinal Tract in Children." *Brit. Med. Jour.*, May 14, 1904.

Raw, in reporting these cases of primary intestinal tuberculosis in children, states that it is an extremely rare condition, and in 600 autopsies on persons dead of tuberculosis he has only found three undoubtedly due to primary intestinal infection.

The German commission appointed after Koch's famous London address, in 1901, was unanimous in favour of Koch's contention that the bacilli of human and of bovine tuberculosis have distinct morphological and bacteriological characters; which sufficed for their easy differentiation. In addition, the commission has clearly proved that bovine tuberculosis is conveyed to children, and emphasizes the fact that tuberculosis is often primary through the intestines and mesenteric glands. From three cases of miliary tuberculosis in children the disease was introduced through the intestines, and in one case the infection was bovine through milk. The German commission thus recognizes that bovine tuberculosis may be conveyed to children through milk, although this mode of infection they regard as uncommon.

Raw believes, however, that bovine tuberculosis through milk infection is comparatively frequent. Although the intestine is rarely attacked, yet the bacilli pass through the mucosa and infect the mesenteric glands. From this point the abdomen is infected by direct extension, as are also the bronchial glands, the pleuræ and the lungs. In 48 autopsies the majority showed primary infection of the digestive tract (mesenteric glands) and secondary involvement of the lymphatics of the throat and sometimes the meninges. His cases of acute miliary tuberculosis all appeared to be of intestinal origin and bovine in type.

Raw concludes that bovine tuberculosis is a great danger to children, and that milk for children under 10 should be sterilized.

Symes and Fisher analyze 500 cases as to the primary seat of infection. They found, in children under twelve, 12 abdominal and 57 thoracic cases, a proportion of 1 to 4.7. Under two, however, the abdominal

case come more frequently, 5 being abdominal and 9 thoracic. This, however, does not prove, although it suggests a milk infection.

Hunter has utilized the extraordinary wealth of pathological material at Hong Kong in estimating the occurrence of primary tuberculous infection of the intestine.

During 1902-1903, 5,142 necropsies were held at the public mortuary, about 35 per cent. being in children under 5. Only 13 cases of intestinal tuberculosis were found, and in 8 the condition was regarded as secondary. Of the five primary cases all occurred in children under 5. The mesenteric glands were infected in only 5 cases in over 5,000 autopsies. Hunter concludes that primary tuberculosis of the intestine and of the mesenteric glands is rare.

Hunter's results there correspond closely with those of Koch and of Baginsky, of Berlin, so far as primary tuberculosis is concerned. The extreme rarity of intestinal tuberculosis of secondary origin is remarkable, and forms a marked discrepancy with the frequency of intestinal tuberculosis in other countries.

HENRY HUN, M.D. "Myasthenia Gravis." *Albany Medical Annals*, January, 1904.

Hun's paper is an important contribution to the pathology of this malady.

The clinical features of the disease are now fairly established, and have been dealt with exhaustively by a number of writers, notably by Oppenheim (*die Myasthenische Paralyse*, Berlin, 1901).

In 1901, Weigert reported in a typical case of myasthenia gravis a sarcoma of the thymus and an infiltration of the muscles by foci of lymphoid tissue.

Hun's case was a locomotive engineer, aged 32, who gradually developed ptosis, and a muscular weakness extending down to the neck, arms and hands, and six months later to the lower extremities. The weakness at first limited to the left side, extended in the course of nine months to almost all the muscles on both sides of the body. The involvement of the face muscles gave a peculiar character to the smile and laugh, and made whistling impossible. The muscular weakness did not amount to complete paralysis; it varied greatly in intensity, was worse toward the end of the day and in especial, was associated with a rapid tiring of the muscles. Electrical examination of the muscles gave the myasthenic action, and the muscles were very inexcitable to both currents. The case terminated fatally from suffocation in less than two years from the onset.

The *post mortem* changes revealed no special changes, with the exception of an infiltration of the muscles and of the thymus gland with lymphoid tissue, and a proliferation of the glandular elements of the thymus, the changes suggesting lympho-sarcoma.

In cases already reported no evidence of disease of the central nervous system has been found. Several cases, however, have been recorded in which conditions similar to, or analogous to that described by Weigert, have been present.

The chronicity of the disease is rather against the theory that it is caused by a lympho-sarcoma of the thymus, although this objection only holds for a small number of cases, most terminate within two years.

The thymus is not always the seat of sarcoma. The infiltration of the muscles, however, goes far in explaining the peculiar clinical features of the disease.

LARYNGOLOGY.

UNDER THE CHARGE OF H. S. BIRKETT.

HENRY KOPLIK, M.D. "Tuberculosis of the Tonsils, and the Tonsils as a Portal of Tubercular Infection." *American Journal of the Medical Sciences*, November, 1903.

As regards primary tuberculosis of the tonsil, the writer emphasizes its rarity, and refers to Friedmann's case as being the only one of the kind in the later literature. In this case the patient was one year and four months of age; the tonsil alone was affected, the child dying of other causes.

He mentions the fact that other authors, as Orth, Ruge, Schlessinger Scheibner and Kruckmann speak of primary tuberculosis of the tonsil with accompanying tuberculosis of the cervical lymphnodes, and also that cases have been published by Schlenker, Brugmann, Freidmann and Orth in which the tonsillar affection was the starting point of an acute miliary or chronic pulmonary tuberculosis. He also refers to the fact that the secondary forms of tuberculosis of the tonsil are very common and mentions the names of Strassmann, Ruge, Dmochowsky and Schlenker in this connection. The writer then makes the rather startling statement that "the victims of chronic pulmonary tuberculosis sooner or later develop tonsillar infection," a view certainly not generally accepted, and in any case difficult of proof.

The writer then proceeds to mention the fact that the cervical lymphnodes are quite constantly affected, and that children furnish by far the greatest quota of cases. He then describes the appearance of the affected tonsils, which seemingly have nothing characteristic, the pre-

sence under the microscope of the tubercle bacillus and tuberculous tissue being the diagnostic evidences. Ulcers on the tonsils have rarely been observed.

He summarizes the cases of primary tuberculosis in the later literature, confirmed by autopsy and reported by Friedmann, Kruckmann, Schlenker, Ruge and Scheibner.

Pluder and Fischer examined the tonsils of 32 patients which had been removed for hypertrophy, and found tuberculous infection in five.

Lartigan and Nicoll found 10 per cent. of 85 adenoids were tuberculous, no evidence of tuberculosis clinically in other organs.

These authors give a *résumé* of 161 cases of Lermoyez, Gottstein and Brindel examined in the same way, 19 of these cases were found to be tuberculous and to contain tuberculous tissue.

The writer then reports a case of apparently primary disease of the tonsil of special interest from the fact that the development of the affection had dated distinctly in his opinion from an exposure to infection.

"Both tonsils were involved. One tonsil showed a distinct tuberculous ulceration which is rare, resembling in some respects a chronic diphtheria. Scrapings from the tonsillar ulcer revealed large numbers of tubercle bacilli. The granulations scraped from the tonsils showed tubercle with giant cell formation. Examination of the extirpated left tonsil showed the same tissue and bacilli. The lymph-nodes on both sides of the neck, from the angle of the jaw down, were much enlarged, and when extirpated and examined showed the presence of cheesy areas, tubercle tissue and numbers of tubercle bacilli. The nodes showing the oldest infection were high up behind the tonsil."

Then follows a complete history of the case.

He then quotes another case in which enlargement of the cervical glands followed "an affection of the tonsil," the glands on this side being subsequently removed, gave evidence of tuberculosis, though the tonsil was of an apparently normal appearance at the time of operation. The tonsil was not examined, and it presumably was not removed. Child well six months after operation.

EUGENE S. YONGE, M.D., Edin. "The Prevention of the Recurrence of Nasal Polypi." *Lancet*, November 7, 1903.

The writer, while admitting that the pathology of nasal polypi is still somewhat involved in mystery, is convinced after a study of this subject that in the evolution of successful methods of treatment, the labours of the clinical observer have been distinctly more fruitful,

especially as regards those whose object is to obviate the tendency to recurrence.

After enumerating the different sites where polypi are commonly attached, he refers to the recognized frequent association of polypi and disease of the accessory sinuses, notably the ethmoidal cells, and mentions three cases in his own experience where disease of the accessory sinuses and polypi co-existed, all of which yielded to suitable treatment. He quotes Lambert Lack as of the opinion that these formations usually owe their origin and tendency to recurrence, to disease of the underlying bone, the morbid condition being an osteitis and periostitis, an opinion practically confirmed by Thurston, Martin, Cordes and others; although the last named did not always find in mild cases of polypi, evidences of bone disease on microscopic examination. According to the writer, clinical testimony in support of Lack's statement appears to be provided by the fact that the inclusion of a portion of the underlying bone, when removing a polypus with the snare, is found to be of distinct value in preventing recurrence. Where the polypi are numerous and a radical cure is wished for, simply snaring is not sufficient, and it is in the writer's opinion necessary when all the visible polypi have been removed, to expose the parts from which they grew and to cut away the diseased tissues.

He recommends a preliminary removal of a considerable portion of the middle turbinal by Luc's flat nasal forceps, and after drying and examining, the polypoid remnants and diseased tissues may be removed by the same forceps or by a ring knife.

Luc advises in addition, the opening of the posterior ethmoidal cells at the same sitting.

The results of this procedure with regard to the prevention of recurrence have, in the writer's experience, been very favourable, cases having been quickly cured, and when recurrence does take place it is not of a severe nature and is usually more easily treated than is the primary condition, on account of the modification in the anatomy of the parts.

General anæsthesia may, if necessary, be employed.

He concludes by describing briefly the operative procedure recommended by Lambert Lack for the treatment of severe cases of polypi, this may be referred to in the "Manual of Surgical Treatment," Cheyne & Burghardt, Part V., London, 1902. The writer draws attention to the fact that the field of operation is undoubtedly a dangerous one, especially on account of the vicinity of the cribriform plate.

J. ROUBLEFF. "Treatment of Ulcerous Lesions of the Pharynx and Larynx, of Tuberculous and Syphilitic Nature." *Ibid.*

Sokoloff (Medic Obsr. N. 10, 1903) is here quoted as having em-

ployed solutions of pheno-salyl in strengths varying from three to 10 per cent. in 25 cases, 16 of which were laryngo-pharyngitis and six syphilitic ulcerations. The results obtained in nearly all the cases have been satisfactory.

After three or four irrigations the pain on deglutition diminished.

After five or six irrigations with a five per cent solution of pheno-salyl, limited tuberculous infiltrations disappeared and the voice became more clear.

In the syphilitic ulcerations where the lavage (without general specific treatment) was performed every second day with a solution varying in strength from five to ten per cent., cicatrization commenced as a rule at the end of two or three weeks.

ROUBLEFF. "Local application of Pheno-salyl in Tuberculous Laryngitis." *Revue de Thérapeutique Médico-Chirurgicale*, September 15th, 1903.

The writer refers to the employment by Dempel (*Thérapeutique Moderns Russe*, No. 3, 1903) in 54 cases of tuberculous laryngitis of repeated syringing of the larynx with pheno-salyl, a method of treatment recommended two or three years previously by Von Stein.

Dempel declares, according to his observations, in favour of an aqueous rather than the glycerine solution recommended by Von Stein, on account of its freedom from the burning sensation following the use of the latter.

He practices these washings three or four times weekly, according to the intensity of the affection, and finds that the superficial ulcerations disappear after several syringings, while the deeper ulcerations require a somewhat prolonged treatment, four or five weeks.

In concluding, the writer remarks that in strong solutions pheno-salyl is almost painless, there is no disagreeable odour and a preliminary cocainization is not necessary, facts which, in his opinion, permit of pheno-salyl taking one of the foremost places in the conservative treatment of tuberculous laryngitis.

E. VOGT. *Ibid.*

The writer quotes Fink (*Die Heilkunde*, July, 1903) as having made use of the drying and slightly stimulating properties of aristol in the treatment of ozæna. According to Fink it is necessary first to cleanse thoroughly the nasal cavity, and for this purpose he recommends a solution of 300 grammes of water containing half a drachm of spirits of soap.

These irrigations are carried out two or three times daily, and each

is followed by the insufflation of aristol, a treatment which results in a gradual diminution of the secretion; there are fewer crusts formed, and it is necessary to proceed less frequently to lavage.

It is in rhinitis vasomotaria that according to Fink is symptomatic of maxillary sinusitis that aristol gives the best results by entering the diseased sinuses.

He mentions 55 cases of cure, but emphasizes the technical difficulties of introducing a canula through the opening into the antrum and insufflating through this canula.

LAWRIE H. MCGAVIN, F.R.C.S., Eng. "A note on Tonsillar Enlargements and their Treatment." *Lancet*, September 26th, 1903.

The writer begins by advocating more conservatism in the treatment of enlarged tonsils until the functions of these organs are better understood.

As to the uses of the tonsils; he considers them first and chiefly as the scavengers of the oro-pharynx and brings forward in support of this view several points of argument more or less theoretical.

The observations of Störck, Park and others are quoted as evidence that phagocytosis is one, if not the chief object of these glands; and the experiments of Goodall and Hendelsohn have proved their absorptive power.

That the tonsils undergo atrophy in later life the writer considers no argument against their supposed protective function, as the marked predisposition to the exanthemata disappears in later life and their presence being no longer required, he regards it in the natural course of events that they should to some extent disappear. He classifies enlargement of the tonsils as follows:

1. Simple enlargement or hypertrophy of the tonsils. Treatment, partial or complete removal.
2. Enlargement due to continued irritation subdivided into two classes—(a) Those in the early stage of inflammation; (b) Result of chronic inflammation or hyperplasia. The most common cause being nasal insufficiency.

Treatment—(a) Remove cause; (b) Remove tonsils.

3. Enlargement accompanied by lacunar inflammation.

The treatment here is conservative and radical.

The first consisting in the use of the thermo cautery and dilatation of the orifices of the crypts, the writer describes a crypt dilator and curette of his own design.

Then follows a list of cases where the use of each is indicated.

OTOLOGY.

UNDER THE CHARGE OF FRANK BULLER.

PHILIP D. KERRISON: "The Limits of Variation in the Depth of the Mastoid Antrum." *Archives of Otolaryngology*, Vol. 32, p. 171, June, 1903.

To bring order out of the confusing diversity of opinion regarding the depth beyond which it is not safe to proceed in an attempt to open the mastoid antrum, and to ascertain if any definite relationship existed between the length of the posterior superior wall of the auditory canal, and the depth of the antrum, Kerrison made careful measurements of 30 temporal bones taken at random as they could be obtained. The conclusions arrived at were as follows:

1. That the depth of the antrum is always less than the length of the posterior superior wall of the auditory canal; that in the great majority of bones it is not over 12 mm., is often very much less, and is never greater than 15 mm., or $\frac{3}{8}$ ths of an inch; and therefore—

2. That in a surgical attempt to expose the antrum a depth of $\frac{3}{8}$ ths of an inch (15 mm.) should be regarded as the extreme limit of safety.

In the discussion following the reading of this paper, Dr. Ducl (p. 215) thought that while an anatomical work of this kind was very important for the purpose of clarifying the literature of evident mistakes, the facts nevertheless would not prevent the inexperienced or careless operator from going wrong. In other words, that with a fixed depth in his mind an operator might in some instances stop short of the antrum, and in others go too far if he were proceeding in the wrong direction. The important thing was that the operator should have an abiding faith in the presence of the antrum always in the same place, namely, beneath the angle made by lines drawn tangent to the superior and posterior portion in the circumference of the bony canal wall, and that he should go ahead in this direction irrespective of how deep, until that cavity was encountered; that in this position he would seldom expose the sigmoid sinus in going into the antrum, and that in the rare instance in which this might occur it would be necessary to approach the antrum by removal of the posterior superior portion of the bony canal wall after separating the cartilaginous canal.

PROFESSOR BEZOLD, Munich: "The Treatment of Acute Otitis Media." *Archives of Otolaryngology*, Vol. 32, p. 9.

The objects to be attained in the treatment of simple acute and perforative otitis media are stated by Prof. Bezold as follows:—

1. The morbid products must be completely removed or their rapid absorption assured.

2. The reinfection of the diseased cavities is to be prevented.
3. Permanent and favorable conditions for drainage.

The first indication is met by use of the air douche and paracentesis. Since otological thought has come more and more under the influence of bacteriological theories there have been many warnings against the use of the air douche as long as the ear disease is in an acute stage, though later its use may be permitted. Professor Bezold has become convinced of the favourable action of air inflation in acute aural inflammations in a sufficiently large number of patients so as not to be frightened on any theoretical grounds. He does not consider the bacteriological theories to be wrong, but the distrust of the protection which the tubal canal furnishes against the entrance of corpuscular elements in the air current unreasonable. As long as the drum membrane is not perforated he has never hesitated to use the air douche and has never seen any harm come from it.

The practice of paracentesis has recently been restricted by certain colleagues. This to the author is absolutely incomprehensible and he is positive that the opening of the drum membrane at the proper time, not only brings subjective relief but shortens the subsequent course. The opening made by paracentesis does not of itself fulfil all the indications, but the secretion must be forced out. For this he prefers the external air douche from the auditory canal, which is also performed during the act of swallowing.

After paracentesis the air douche is practised from the auditory canal, then a small quantity of boracic powder is insufflated by means of a glass rod or pipette. Later, the following method of treatment is adopted: The patient is made to frequently repeat Valsalva's experiment, and the secretion which appears at the orifice of the perforation is carefully removed by repeated moppings with cotton-wool pledgets until everything is perfectly clean. Then boracic acid powder is insufflated.

The advantages claimed for this method are (1) The discharge never becomes fœtid; (2) The auditory canal remains free from inflammation and swelling during the entire course of treatment.

In the case of perforation the ulceration and thick epidermis disappear quickly and the excoriations heal in a few days. Thenceforth the canal remains free from irritation. This permits us at any time to thoroughly survey the drum membrane and to recognise the ominous swelling of the posterior and upper bony auditory canal at its beginning significant of mastoid involvement.

During the treatment repeated small operations on the drum membrane may be necessary; the opening, if situated in the upper posterior

quadrant, must be enlarged downwards. If at any time the perforation is impassible for the air douche, and the drum is again bulging, paracentesis must be repeated at the old site. The return to the normal hearing distance (whisper at four to five meters) gives us the surest indication that the opening may be allowed to close. After closure the douche is to be applied by means of a catheter in adults and Politzer's method in children until no noises are perceived by the patient on blowing his nose, when the hearing has become normal.

In the last five years between three-fourths and four-fifths of Professor Bezold's cases have healed under this line of treatment; in the remainder, namely one-fifth to one-fourth of the acute purulent otitides, the antrum and mastoid cells had to be opened. In explanation of this large percentage it may be stated that the author holds very broad views in regard to the operative treatment of the mastoid complications. As for instance, if an acute middle ear suppuration lasts more than two months notwithstanding careful treatment, he considers a complication is surely present which will prevent its healing spontaneously.

Finally Professor Bezold protests against two methods of treatment which are recommended in many text-books and are being employed at the present day to a limited extent. These are: Irrigation of the middle ear by means of a catheter through the Eustachian tube, and the drainage of the ear canal by the so-called "dry" method. The first method he considers should be abandoned in the light of our present knowledge and experience, and from what he has seen of the second method he considers its action to have been very unfortunate.

W. GORDON M. BYERS.

Society Proceedings.

LA SOCIETE MEDICALE DE MONTREAL.

Final Meeting, June 7th, 1904.

DR. VALIN, PRESIDENT, IN THE CHAIR.

DR. DEMARTIGNY introduced to the meeting Dr. Carrel of the Faculty of Medicine, Lyon, and he was elected an honorary member.

DR. VALIN showed a patient 66 years old, who was suffering from syphilitic gummata of the right testis and both elbows and knees. Great improvement had followed specific treatment of 15 days duration.

DR. DUBÉ suggested that the peculiar location of the gummata was explained by the fact that the patient was a carpenter, and so obliged to exercise pressure upon the knees and elbows.

DR. W. J. DEROME showed a specimen of fibromatous uterus which had been removed by him from an unmarried woman, 43 years of age. He gave a full report of the case. Five years ago there was flooding, very profuse, and curetting was done without a satisfactory result. Dr. Derome described the state of affairs which he found last February and again in May. The total ablation of the uterus was decided upon by abdominal incision, and the operation was carried through without difficulty. An examination of the specimen showed that the cervix was distended by a pedunculated submucous myoma; both ovaries had undergone cystic degeneration and were removed. The patient made an uninterrupted recovery.

DR. CARREL discussed the advantages of the vaginal method as compared with removal by the abdominal. Dr. Derome, in reply, said that the long narrow vagina would have rendered such an operation almost impracticable, and would have compelled him to leave behind appendages that should have been removed. The advantages of either route might be relative, but as a matter of fact the vaginal route which had been so much in vogue was now almost abandoned.

DR. DUBÉ read a case report of Pericarditis and showed explanatory diagrams.

DR. VALIN presented a paper in which he insisted upon the importance of immobilising the limb in a horizontal or elevated position in the case of tibial ulcers. In the discussion of the case Dr. Carrel confirmed Dr. Valin's views.

With this meeting, the proceedings for the year were closed. The meetings will be resumed on the 11th of October next.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Seventeenth Meeting, June 3rd, 1904.

DR. J. A. MACDONALD, VICE-PRESIDENT, IN THE CHAIR.

DR. OSKAR KLOTZ read a paper on Cancer of the Bile Papilla. It appears at page 477 in the present number of this JOURNAL.

DR. ADAMI: I must congratulate Dr. Klotz in having added to the literature of this interesting subject and in demonstrating so clearly that here we have a fifth possible origin for cancer of the root of the Bile Papilla. I am fairly familiar with the literature on this subject, and so far as I know, no one has called attention to this fact that one may have cancer from Brunner's glands. Another point is that we are clearly able to separate off the pancreatic duct as being the cause of cancer in this region showing clearly that if not from the bile duct it is from the ampulla. Here we have the extraordinary small size of the

blocking. Really the whole growth was not as large as the end of one's little finger and yet it proved fatal. I must congratulate Dr. Klotz on his careful study of this case.

DR. JACK: I would like to ask about the sex, and if Dr. Klotz thinks excessive alcoholism at all invites this disease.

DR. KLOTZ: Further than upon the irritation theory of cancer, alcohol would seem to play little part in cancer of the bile papilla or of the ampulla. Taking cancer of the intestine as a whole it decreases from the rectum upwards, the greatest number of cancers in the intestine are located in the rectum, sigmoid flexure and so on to the duodenum, and at the duodenum, they again increase towards the stomach, so that it would seem that alcohol would play but little part in cancers of the intestine as there is the greater number of cases at both ends of the alimentary tract.

DR. MALCOLM MACKAY read a paper on Hereditary Chorea in eighteen members of a family with a report of three cases.

Eighteenth Meeting, 17th June, 1904.

H. S. BIRKETT, M.D., PRESIDENT, IN THE CHAIR.

The following officers were elected for the ensuing year:

President—Dr. J. A. Macdonald.

Vice-President—Dr. F. R. England.

Secretary—Dr. A. H. Gordon.

Treasurer—Dr. A. T. Bazin, re-elected.

Trustee—Dr. James Bell.

DR. JOEL E. GOLDSWAIN, of Boston, read a paper upon The Differential Diagnosis and Treatment of the so-called Rheumatoid Diseases, illustrated by stereopticon views. The following is a synopsis of the paper: The Morbid Anatomy, differential diagnosis and treatment of these conditions was considered, separating them for the purposes of study into the following types:

(1) Chronic Villous Arthritis, a purely local process, generally mono-articular.

(2) Atrophic, or Rheumatoid Arthritis, a chronic disease characterized by early and progressive atrophy leading to marked crippling, with little or no blood change.

(3) Hypertrophic, or Osteo-Arthritis, a local or general process, characterized by thickening and ossification of the edges of the articular cartilages.

(4) Infectious Arthritis, due to infectious organisms or their toxins—practically a septicæmia and associated with secondary anæmia and enlarged glands.

(5) Chronic Gout, characterized by deposit of urate of soda in the soft structures about joints, with some bone absorption.

A very full discussion followed the reading of the paper, which was shared in by Drs. Garrow, Blackader, Adami, Gilday, England, Girdwood and Perrigo.

McGill Undergraduates Medical Society.

FRANCOIS PETIT—1664-1741.

BY

C. F. COVERNTON, '05.

François Petit, known better under this name than that of Pourfour du Petit, was born in Paris on the twenty-fourth day of June, 1664. His parents, who were engaged in commerce, died during his childhood.

His studies caused him a great deal of application and trouble; he succeeded little on account of a poor memory. He had not only difficulty in learning but also in retaining what he learned. This difficulty grew less only when he was in his second year of philosophy. Descartes' Physics, which his professor taught him, pleased him greatly; he seemed born for that study, and he made it the principal object of his application during his whole life.

Desirous of increasing his knowledge in this branch, he began to travel as soon as his college course was finished; he travelled through a great part of the provinces of France and Flanders studying nature, and seeking out other students. One of these, to whom he became most attached and from whom he received the greatest part of his instruction, was M. Blondin of La Rochelle, who possessed a choice library, a garden of medicinal plants, and a cabinet of natural curiosities. This gentleman taught him anatomy, and ended by advising him to become a doctor. Petit followed his counsel, left for Montpellier towards the end of 1687, and entered there on the study of medicine under Chirac.

He took a course in Chemistry, and after receiving the degree of M.D. returned to Paris in 1690. He attended du Verney's lectures on anatomy, Tournefort's lectures on botany and Lemery's on chemistry. He soon obtained the esteem and friendship of these three great men. In 1691-1692 he passed in these studies, and also that of practical surgery, which he studied in the Charity Hospital. War having broken out in 1688, Petit presented himself for service in the hospitals of the French army; being accepted, he set out on 1st of April, 1693. He worked successively in the hospitals at Mons, Namur and Dinant, giving in all these proofs of his zeal, disinterestedness and capability.

He caused to be established in the hospitals themselves, chemical laboratories and dissecting rooms. He drilled his pupils in the knowledge of plants, in gathering them and how to prepare them in the proper season. He collected together in this way a large number of plants, which he dried with care, and these were the beginning of a description in thirty large volumes which he has left. After the peace of Ryswick in 1697 he returned to Paris, and the following year set out for the camp at Compiègne. But the succession to the Spanish Crown having caused war to break out again, he was once more employed in the hospitals. After the Peace of Utrecht in 1713, he took up his residence in Paris where he became a member of the Academy of Sciences in 1722. Hardly three years elapsed when he obtained the professorship of Anatomy, rendered vacant by the superannuation of M. du Verney. It was the reputation he had acquired in the different branches of his art that opened to him the doors of this celebrated institution. He excelled above all in treating diseases of the eyes. He thought out and had constructed an ophthalmometer, an instrument for measuring the parts of the eye, and several other instruments to direct the hand of those who were operating. One of the most important of these was a hollow glass globe representing the eye, the lens of which was affected with a cataract.

This ingenious man died at Paris, June 18th, 1741. His writings are published in a style noted for neglect, because he had never known or wanted to know what was meant by revising a work. Completely absorbed in deeds and experiments he thought little about phrases.

Not mentioning the memoirs which he transmitted to the Academy, his principal works are "Three letters from a hospital physician of the King to another doctor friend on the new system of the brain," published at Namur 1710; "Dissertation on a new method of operating for cataract," published in Paris 1727; "Reflections on discoveries in the eye," published at Paris 1732. One of the most important structures bearing his name is the Canal of Petit, a space intersected by numerous fine interlacing fibres, existing between the anterior and posterior laminae of the suspensory ligament of the crystalline lens. It extends from the periphery of the lens nearly to the apices of the ciliary processes, and transmits the secretion from the posterior chamber.

In connection with the Congress of Arts and Science at St. Louis, the Department of Medicine will be opened on Tuesday, September 26th, under the chairmanship of Dr. William Osler, with two general addresses by Dr. W. T. Councilman, of the Harvard Medical College, and Dr. Frank Billings, of the Rush Medical College.

On Wednesday morning, September 21, a section of Public Health will meet the presidency of Dr. Walter Wyman, Surgeon-General of the United States Marine Hospital Service. It will be addressed by Professor W. T. Sedgwick, of the Massachusetts Institute of Technology, and Dr. Ernest J. Lederle, formerly Commissioner of Health of New York.

A section of Otology and Laryngology will meet at the same time: Chairman, Dr. Glasgow, of St. Louis; Principal Speakers, Sir Felix Semon, of London, and Dr. J. Solis-Cohen, of Philadelphia.

In the afternoon a section of Preventive Medicine will meet, under the chairmanship of Dr. Mathews, President of the Kentucky Board of Health. It will be addressed by Professors Ronald Ross, of Liverpool, and Celli, of Rome. At the same time with Preventive Medicine, a section of Pediatrics will meet under the chairmanship of Dr. Rotch, and will be addressed by Escherich, of Vienna, Jacobi, of New York, and others.

On Thursday morning, there will be meetings of sections of Pathology and Psychiatry. The chairmen of these sections are Drs. Simon Flexner and Edward Cowles. Marchand, of Leipzig, and Orth, of Berlin, have accepted invitations to address the section of Pathology, but it is not certain whether both will be able to attend. Psychiatry will be treated by Ziehen, of Berlin, and Dana, of New York.

In the afternoon a section of Neurology will meet, under the chairmanship of Professor L. F. Barker, of Chicago, and will be addressed by Kitasato, of Tokio, and Putnam, of Boston.

There will also be sections for Therapeutics, Internal Medicine, Surgery, Gynæcology and Ophthalmology and it is hoped that this programme will prove attractive to such leading members of the Medical Profession in America as may be able to visit St. Louis and take part in the proceedings of the Congress.

The position of Resident Medical Officer, or House Surgeon in the Vancouver General Hospital will be vacant on September 18th. This hospital has at present 60 beds, but additions are being made which will increase the accommodation to 150 and ultimately to 300 beds. Application may be made to the secretary, Wm. Skene.