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SANITARY SCIENCE AND THE VETERINARIAN:

BY

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Pathologist to the Dominion Department of Agriculture, Ottawa.

Human and veterinary medicine are so closely related that the consideration of sanitary matters by one has a direct bearing on the sanitary matters connected with the other. The veterinarian as a sanitarian holds a position of equal importance to that of his medical confrere in a like capacity. He is naturally an expert on live stock matters, and in this respect his services are indispensable to the community from a public health standpoint.

The veterinarian is by education a sanitarian. To more forcibly illustrate this, I can do no better than quote a portion of an editorial from the *American Veterinary Review*. This editorial, stimulated by an announcement of the Faculty of Medicine of Liverpool University that a diploma in Veterinary Hygiene was being offered to veterinarians, on similar lines to the diploma given for Public Health by various institutions in medicine,* is from the pen of Dr. A. Liautard.

“I do not exactly know what the curriculum of the veterinary schools of Great Britain is, but if all the branches which compose the new addition to the Liverpool University were not taught at those institutions, certainly their course was incomplete; and if they were, there can be but little use for a new institution. Hygiene and sanitary medicine are important parts of veterinary education, and have chairs in all European schools.”

On this continent the same may be said of the existing veterinary schools. Hygiene and Sanitary Science have chairs, and much attention is paid to their efficiency.

The field is ever widening for the veterinarian with an inclination to study and follow that line of his profession which is intimately identified

Read December 16th, 1904, at the meeting of the Medico-Chirurgical Society, Ottawa.

* *American Veterinary Review*, Vol. 28, p. 316, 1904.

with Public Sanitation. Health Boards are recognizing the importance of having a veterinarian connected with their department, there being many matters on which he is able to give an opinion of authority. The advantage of having such an individual connected with a municipal board of health is well shown by the results obtained in Montreal. We see in the local press of that city the record of food confiscations. The publicity which these receive cannot fail to exert a beneficial influence on dealers, who, without a constant menace, would for a few cents, sell food which they knew to be unfit for human consumption.

The ever-increasing use of meat as a food product is creating a demand for an authoritative statement as to its wholesomeness, and this demand is fast growing to be an absolute necessity. For this purpose an ante-mortem and post-mortem examination should be required. Not only is it essential for us to be particular about our food supply immediately before and after slaughter, but our knowledge must be far-reaching; it must include a knowledge of the conditions under which the animals were reared, together with the presence or absence of diseases which would be liable to affect those consuming the product.

The contagious diseases of animals probably present a more fascinating field of labour to those veterinarians directly interested in sanitary work.

The history of the recent outbreak of foot-and-mouth disease in the New England States demonstrated very forcibly what can be accomplished by veterinary sanitarians. The live stock interests of the whole of the United States were threatened, representing a commercial value of billions of dollars. In a somewhat less degree was the live stock industry of Canada similarly threatened. There is no doubt that the efficient sanitary precautions then taken by the present Veterinary Director-General, in controlling the movements of animals and their products, were effectual in preventing the appearance of this scourge in Canada.

We have further evidence of what proper sanitary measures will do when devised and carried out by trained veterinarians from the results achieved in dealing with hog cholera. This disease, when introduced among hogs, proves very fatal, and often a breeder has seen the painstaking effort of years swept away in as many days. Hog cholera has caused immense losses in every country where hogs comprise a portion of farm stock. In Canada, after two years of systematic effort, the disease has been almost completely eradicated, with the exception of a small area, which, for years, has menaced the whole country, and even in this

area the disease is less frequently met with than formerly, and will no doubt, in the course of a few more years, be even there an unknown quantity.

The discovery of mallein, a toxine produced by the growth of the glanders bacillus on suitable media, by two Russian veterinarians, von Prouse and Kalning, is of inestimable value in dealing with this equine disease, which every year claims its quota of human victims. No doubt the history of the Ottawa outbreak is still fresh in the minds of many, as well as the fact that the strict sanitary measures then enforced, is responsible for the almost complete absence of the affection in this city to-day. The results achieved can almost wholly be attributed to the intelligent use of mallein in removing those incipient cases which presented no clinical manifestations, but nevertheless would have proved virulent foci without this aid to diagnosis.

Tuberculin has likewise rendered a valuable service in the detection of incipient cases of tuberculosis. Many practical examples are now on record where the sale of a tuberculous herd was the means of disseminating the disease through the sale of the tubercle bacilli with the animals, and the unwitting purchase of both by an innocent buyer. There is at present no excuse for such a condition of affairs, as tuberculin will detect the disease and protect the individual from a large financial loss, at an outlay hardly worth consideration, in view of the saving of many valuable animals from an infection which sooner or later bids fair to materially affect their commercial value.

Scientific investigation is constantly indicating that bovine and human tubercle bacilli have a common origin, and that any difference which may appear in their cultural characteristics or virulence is due to the conditions and surroundings.

The possibility of the contamination of milk with tubercle bacilli is a factor wherever we have a single case of tuberculosis in a dairy herd. Senstrom* has recently shown that tubercle bacilli are not necessarily in the milk of reacting animals, if the milk is drawn under strictly aseptic conditions, and there is no udder lesion. He indicates that the most frequent source of tubercle bacilli in the milk is from the fæces. That tubercle bacilli may be, and are, present in the fæces of cattle affected with lung tuberculosis has been conclusively proven by Ostertag.

Newton,† a very close observer of the milk situation, after indicating that the bacterial content of sewage is recorded to be from one million

* Olof Senstrom. *Zeit. für. Theiromd.* 1904.

† R. C. Newton, M.D. "Contamination of Milk." *Jour. Am. Med. Ass'n*, Vol. 2, 1904, p. 1,337.

to four million per cubic centimetre, and showing the proportion of cow manure it is necessary to have present in the milk to give a certain bacterial content, says: "Hence we observe that a contamination of one-tenth grain of manure, an almost invisible quantity to the unaided eye, per quart of milk gives a bacterial content equal to that of sewage."

It is estimated that Berlin consumes no less than three hundred pounds of cow manure with its daily milk supply. Conn proved that cow manure was very soluble in warm milk, and that subsequent straining would not remove it. Thus it is seen that there is still danger of tubercle bacilli being present in the milk, even if the udder of the animal is not affected.

It may be argued that pasteurization will remove the greater part of the danger from bacterial contamination, regardless of its source. Babcock and Russell* have demonstrated that there is an important constituent of the milk which is also destroyed by this heating process. They have found in milk an "inherent digestive enzyme"—galactase. In their experiments, ether, chloroform and benzol were used to destroy the bacteria, and yet the milk so treated underwent a physical change without an increase in bacterial life. The proteolytic enzyme—galactase—is destroyed at about 75°C., and is considerably injured at a somewhat lower point. The removal of this enzyme seriously affects the digestion of the milk in the human stomach. Are we then justified in the destruction of this ferment to counteract the lack of cleanliness observed when removing the milk from the udder?

The need, therefore, of closer observation as to the health and surroundings of the animal producing this important food is apparent. No individual is better fitted for this work of supervision than the expert veterinarian with a knowledge of the sanitary and hygienic conditions necessary to eliminate as far as possible the contamination of milk supplied by animals under his charge.

Since Pasteur's first studies on immunity, conducted with attenuated cultures of the chicken cholera bacillus, this field has received a great amount of attention. The prophylaxis and treatment of many of the contagious diseases is based upon this theory of an attenuated virus. Anthrax and black-leg vaccines, prepared by the attenuation of the virus, are used in enormous quantities throughout the world.

The most important work of to-day, from the veterinarians' standpoint, is the production of immunity in cattle against tuberculosis. Various workers, among whom Pearson and Gilliland of Philadelphia

* S. M. Babcock and H. L. Russell. Annual Report University of Wisconsin, 1903.

are in the front rank, have succeeded in producing a more or less active resistance to virulent tubercle bacilli of bovine origin. We may yet see the day when the foremost dairies will supply milk, not from tuberculin tested animals, but from animals immunized against tuberculosis.

The preference of Texas fever in the southern United States, and, in fact, in all countries with a semi-tropical climate, has stimulated the artificial production of immunity in cattle from northern latitudes, that new blood may be introduced to improve the stock. The process of immunization is now general in the United States, and is undertaken at various State Experiment Stations.

In South Africa horses are "salted" against "horsesickness." This process is, however, not as successful as is desirable, but some progress has been made. Probably the greatest difficulty is the lack of knowledge concerning the infective agent which McFadyean has succeeded in passing through a Berkfeld filter three times, a Chamberland four times, and through a Chamberlain B, once. Thus it is seen that the size of the infective agent militates against detection even by our best microscopes.

Rinderpest infection has, through veterinary sanitation and legislation, been eradicated in Europe, but in South Africa and in cattle destined for the Philippines preventive inoculation is necessary.

South Africa is a country rich in diseases of animals which will require the services of veterinary sanitarians in their identification and control for many years to come. The work of Koch in this connexion has been of great value, and much light has been thrown on some of the more obscure diseases of that country.

Professors Vallé and Carre, veterinarians connected with the Veterinary School at Alfort, France, have shown that there is an anæmia in horses, which is due to an infective agent. This disease has previously been attributed to some local condition, improper and insufficient feeding, or some defective hygienic condition, but inoculation experiments have proven the fallacy of these agencies being instrumental in the cause of the disease. No organism has been isolated or identified, and the supposition is that the infective agent belongs to the group of so-called invisible microbes.

As researches on immunity progress the need will be created for biological products other than those at present on the market. In the preparation of the biological products now in use, the manufacturers guard the health and sanitary surroundings of their experimental animals by the constant presence of veterinarians who have special training and an inclination for the work in hand. A veterinarian in such a position is responsible, not only for the general health and surroundings

of the animals, but also has charge of the toxine injections, and even in some instances the preparation of the toxine itself, most important details in the production of a potent product. Who but a veterinarian with a thorough knowledge of anatomy and physiology would be capable of exercising intelligent supervision over the care of animals favouring us with such important medicinal product?

Thus the study of comparative bacteriology and pathology has indicated the lines upon which veterinary sanitation must be conducted. This study has also indicated the necessity of the physician knowing something of the diseases of animals. Many medical colleges are wisely adding a veterinarian to their staff, that the students may thereby learn some of the more important facts concerning animals, which fact may be of inestimable value to them in their ministrations to men.

The proper field of the veterinary and the human sanitarian is clearly defined. We should, therefore, endeavour to place the responsibility for the execution and enforcement of sanitary laws on those who, by education, training and experience are best fitted to shoulder the responsibility.

CHORION-EPITHELIOMA,

BY

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Montreal.

It is now a well recognized law that the trophoblastic cells of the impregnated ovum burrow, not only into the mucous membrane of the uterus and tubes, but also into the muscle of these structures. These cells may disappear or they may take on active changes, and produce a most malignant growth, which is called chorion-epithelioma.

This disease was at first supposed to be of a sarcomatous nature, and was so described by Sanger in his historical paper upon the subject, which he read before the Leipsic Gynecological Society in 1888. This view has now been completely discarded, and the disease is universally acknowledged to be an epithelioma arising from the villi, and to be of fetal origin.

It almost invariably follows pregnancy, and therefore, as one would naturally expect, it usually occurs during the period of greatest sexual activity, between the ages of 20 and 30; but, of course, there are exceptions to this rule, it having been seen in men and in females, both before the onset of puberty, and after complete establishment of the menopause, in both cases being probably due to teratomata. Out of 275 cases collected by myself, the nature of the previous pregnancy was stated

il. 231, being molar in 30.30 per cent.; following abortion in 34.63 per cent.; and full term labour in 35 per cent. This gives a much larger percentage following pregnancies not terminating in moles than where that degeneration does take place; but, when one considers the extreme rarity of hydatid moles compared with the normal completion of pregnancy, it is easily seen how much more often chorion-epithelioma is preceded by a degeneration of the ovum than where such a condition is not present. The lapse of time between the last pregnancy and the appearance of the disease varies from a few days to some years. The longest interval was one of nine years, in a case reported by McCann. Fleischman comes next with a period of six years, while several with a three years' interval have been reported.

No definite active cause for this malignant degeneration has yet been proved, but the occurrence of lutein cysts of the ovary in cases of chorion-epithelioma has been reported so frequently that we are bound to consider the possibility of the excess of lutein cells having an important influence upon it.

The prognosis is always extremely grave, but patients afflicted by this disease recover occasionally, even where it has been impossible to remove the whole of the affected tissue. Where the disease follows abortion, the death rate is highest, while it is lowest in those preceded by moles, the percentage of mortality being 63.73 per cent. after abortions, compared with 52.85 per cent. after molar pregnancies. Much the most frequent site of the original tumour is high upon the posterior wall of the uterus. Several cases have been observed, however, where the disease had originated in the vagina.

The growth may be pedunculated or sessile, and its size varies from that of a hazel nut to that of a fetal head at term. Metastases are extremely prone to form in (in order of frequency) the lungs, vagina and liver, and, in fact, they have been observed in every organ of the body, not excluding the nervous system.

The symptoms are not pathognomonic, but usually consist of severe hæmorrhage, which is very difficult to check, coming on after pregnancy. Pain is often rather a marked symptom. There may be a foul-smelling discharge, and emaciation, as in ordinary carcinoma. The patient may also have cough and dyspnoea, owing to the metastases. On making a vaginal examination, the cervix is felt to be soft, and the os sufficiently patulous to admit the index finger, which may make out the presence in the uterine cavity of a soft mass of tissue, which feels like placenta. The fundus is more or less enlarged and soft, but it may be firm, never as hard, however, as in carcinoma or fibroid. Masses may also be felt

in the vagina or vulva, varying in size from that of a bean to that of a hen's egg.

The only treatment is early and complete removal where such a procedure is possible. Where this cannot be done, excise as much as possible and use the ordinary measures for keeping the parts clean and aseptic, and for relieving pain.

On examining sections of the tumour under the microscope, processes like villi may be seen, lying between blood-clot and degenerated tissue. In the centre of each process is a certain amount of connective tissue, but this is scarce and loose.

Three varieties of cells are to be observed. The most important cells, and they are those which must be present in order to make a diagnosis of chorion-epithelioma, are the plasmodia. These are large multi-nucleated masses of protoplasm, irregular in shape, and without any definite border. They lie on the outer surface of the villi, and send branches, as a rule, running in every direction. They may, however, be long attenuated masses forming the walls of the blood spaces. It is these cells which penetrate the vessels and the muscle of the uterus. Another variety of cell is a small, well defined polyhedral cell with a large vesicular nucleus, packed together in masses without any connective tissue stroma between them. The third form of cell is large and polyhedral, and is sometimes mono-nucleated and sometimes multi-nucleated. Some of these resemble decidual cells, while others are identical in character with the multi-nucleated giant cells which occur in the decidua serotina. They are arranged in masses, in some parts, without any intervening cell stroma, while elsewhere they are infiltrating, and destroy adjacent tissues after the manner of sarcomata. The small polyhedral cells are those of Langhans, and, when young, are small, but increase in size with age. Their nuclei contain a fine intra-nuclear network, which stains readily. Langhans cells constitute neither a necessary nor an important element in chorion-epithelioma, undoubted specimens of which may be seen without any such cells being present.

The patient, the report of whose case follows, was sent to me by Dr. F. C. Mason, of Massena, New York, whom I have also to thank for the careful after history of the case.

She was a married woman, 47 years of age, who was admitted to hospital on December 1st, 1904. Four years ago (three and a half before the onset of symptoms), she was delivered of a hydatid mole. In June, she began to fail in health, losing strength and weight. At the same time she first noticed a discharge from the genitals, which was bloody, but without odour. This has been present, more or less, ever since, and

two weeks ago she began to fail more rapidly. The discharge had a disagreeable smell for the few days prior to admission. There was nothing unusual about her menstruation. She had given birth to one full term child nine years ago, and the only other pregnancy had terminated in the mole, as above noted. During the last twelve months, menstruation had been irregular, the intervals becoming longer, but for the last five months she has been flowing almost continuously. No history leading to the suspicion of the existence of a pregnancy later than the mole could be obtained. The patient was thin, but not markedly cachectic or emaciated. She was troubled to a slight extent by a cough, but raised very little mucous, and nothing but a few moist rales could be discovered on examination of the lungs.

Upon making an examination of the genitals, a greyish ovoid swelling was seen to be attached to the anterior vaginal wall by a narrow pedicle, which extended from near the external urinary meatus to just below the cervix, leaving a small space of apparently healthy tissue between the two. This growth is the size of an ordinary hen's egg, and slightly mobile. The cervix is soft, healthy and mobile. The fundus is slightly enlarged, hard, rounded and somewhat fixed by a mass to the left, which was about the size of the vaginal tumour. A diagnosis of chorion-epithelioma was made, and the removal of the growth was advised.

The operation was attempted on December 3rd, but, on examination under ether, the growth was found to have extended too far into the left broad ligament to permit of anything radical being done. It was decided, however, to remove as much of the tumour as possible. The vaginal tumour was excised, and a large quantity of the diseased tissue in the left broad ligament was scraped away, in doing which the submucous tissue of the bladder was exposed. The cavity thus formed was closed by a continuous catgut suture in layers from below upwards. The cervix was then dilated, and the uterine cavity was curetted, douched and packed with gauze. The curette brought away a considerable amount of tissue, which strongly resembled that of carcinoma.

The patient made a good recovery from the operation, and improved in health and strength after going home, but towards the end of January she began to fail, and died on April 2nd.

Dr. Mason reported that, soon after her return home, a mass the size of the first joint of the thumb appeared in the right labium majus. On January 29th, two growths in the vagina were first noticed. One was situated over the lower end of the vaginal cicatrix, and increased in size until, at the time of her death, it was as large as an egg. The second, about the same size, was placed to the right of the incision, but high up

in the vagina, the two nearly filling that passage. On February 7th, a foul discharge began to flow from the uterine cavity, increasing in amount up to the time of her death. This discharge was thin and bloody, but was quite free from clots or other particles. On February 14th, the labial tumour broke down, discharging into the vagina, and decreasing in size until it was only about half as large as at first. The uterus steadily enlarged, until it almost reached to the level of the umbilicus on the left side. It was more or less smooth, firm and hard. To the right was a nodule, which was smooth, firm and non-sensitive, and was probably a tumour of the ovary. Between the two was an elongated, sausage-shaped swelling, which was most likely the Fallopian tube of that side. This latter mass was rather soft, smooth, somewhat tender and, at times, painful. In fact, most of the pain from which the patient suffered was located here. Towards the end, the patient had a great deal of dyspnoea, cardiac palpitation, cachexia, malnutrition and general constitutional disorder, but the only time that there was any rise of temperature was immediately after the operation, when it hovered between 99° and 100° for a few days.

In this case, the primary seat of disease was undoubtedly the vagina, the uterus at the time of the curettage being healthy. Metastases took place in the lungs, uterus, and labia, while recurrence occurred in the vagina. Unfortunately, no autopsy was allowed, so that we have to depend upon the symptoms for our knowledge of the metastases.

Pathological Report.—The specimen submitted consisted of the tumour from the vagina, and the scrapings from the uterine cavity. Of the latter, numerous pieces were hardened in alcohol and imbedded in paraffin. Many sections were examined, but nothing abnormal was found. The tumour from the vagina consisted of five pieces of tissue, all presenting the same characteristics in appearance, but varying in size. The largest was about 2cm. and the smallest about the size of a bean. A description of the largest will apply to all. The under surface consists of the vaginal wall, while the upper one presents a shaggy appearance of a dirty brownish colour, resembling clotted blood. On cutting into the tumour, it can be seen to spring from the muscular wall of the vagina, and to be intimately connected with it. It measures between 5cm. and 1cm. in thickness, and is adherent to the vaginal wall throughout its entire extent. The upper surface is friable, and pieces resembling blood-clot are readily broken from it. Near the vaginal surface, the tissues are firmer and more resistant. Pieces were taken from each tumour mass for microscopic examination. They were hardened in alcohol and formalin and embedded in paraffin. The sections were

stained with hæmatoxylin and Van Geisen's stain, and weak alcoholic fuchsin. The sections all show practically a similar picture.

Springing from the muscular layer of the wall of the vagina are seen coarse villous prolongations burrowing into a degenerated and necrosed loose tissue. In parts, this necrotic tissue shows a large quantity of fibrin and, in other parts, cells, resembling those of the villi, can be observed irregularly scattered through it. The deeper surface of the tumour shows clotted blood, which can be readily recognized here as well as in other parts of the masses. The cells of the villi are of several kinds, which vary greatly in their morphology. The main mass is made up of large mononucleated spheroidal cells with a clear protoplasm, and resemble epithelial cells in their appearance and arrangement. In certain of these cells the nuclei are vacuolated. Other cells, and these are especially striking in their appearance, consist of irregular large masses of protoplasm, which stain deeply, and shows a granular or reticulated structure. The shape of these protoplasmic masses varies, being at times flat and elongated, or else rounded, or branched at one end. They also differ in size. Lying within these masses are seen nuclei, which are either oval or rounded, and vary in number from three or four to twenty or more. The relation of these characteristic masses to the clear cells spoken of as above is not always the same. At times, the former lie as narrow nucleated masses outside of or bordering on the clear cells, while in other places none of the latter are to be seen, and yet the plasmodia are abundant. One other form of cell deserves mention. It is rather large, stains deeply, and contains a large, round, single nucleus. These latter cells are scattered throughout the tumour mass, especially with the plasmodia, but also in the necrosed areas. Numerous polymorphonuclear cells are present, and at the edge of the growth, where it can be seen pushing up from beneath the vaginal epithelium and causing its destruction, are numerous small round cells.

The supporting tissue is scanty in amount, and of loose structure, arranged about and lying between large masses of the tumour cells. In many places, no supporting tissue is seen, but only large syncytial masses, and cells of Langhans, lying loosely arranged in necrotic tissue. Within this supporting structure are seen thin walled blood spaces and capillaries.

The diagnosis of chorion-epithelioma is made from the macroscopic appearance, but especially from the microscopic, which at once strikes one as being similar to that presented by a section of the placenta. The irregular arrangement of the various parts to each other, the proliferation of the cells of Langhans, and the fact that the tumour had arisen out of place, all point to its malignancy.

FIBRO-CHONDROMA OF THE UPPER JAW.

BY

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Montreal.

The case which I am presenting this evening is one of a large Osteoid Fibro-Chondroma of the upper jaw, which was removed at the Hôtel-Dieu by Dr. Marien, who has asked me to report it for him.

The patient is 44 years of age; has been farmer and lumberman. His family history is negative. The patient was born of healthy and long-lived parents. He is the father of 15 children, all of whom were born healthy. As a child he had measles, scarlet fever, and diphtheria, and at the age of 23 he had pneumonia. Since then his health has always been excellent.

In 1891 he was kicked in the face by a horse, which caused profuse bleeding from the nose and mouth. When the bleeding stopped no visible wound was left, and he suffered no further inconvenience.

In March, 1899, the present condition began. A small, hard and painless mass developed behind the alveolar margin opposite to the second left incisor and left canine teeth, both of which were carious. This swelling increased steadily, and in July he was unable to hold his pipe in his mouth. In December of the same year he found his strength decreasing, and was forced to cease work. His appetite remained good, and he slept well.

In March of the following year the mass grew painful. The anterior surface grew red and swollen. The temperature rose, and the patient had frequent chills coming, as he says, at 9 o'clock every morning, and lasting from half an hour to an hour. He remained in this state for two months, when the spontaneous opening of an abscess gave him relief. A quantity of pus and a sequestrum of bone, about an inch and a half long and three-quarters of an inch in breadth, came away. A fistulous opening remained, and the patient's condition improved.

During the next three years similar abscesses formed, accompanied by the same severe inflammatory symptoms, and always ending with the spontaneous formation of a fistulous opening, and usually with the discharge of a sequestrum of variable size. These attacks reduced his weight from 185 to 130 pounds.

Since the month of March, 1904, no more abscesses have formed, and during the summer following, the patient's appetite, weight and strength improved. The mass, however, grew steadily, till last autumn, when



L. S., 41 years, resident of Joliette. Entered the Hotel Dieu on 13th March. Operated on, 30th March.

the rate of growth increased, and the man was admitted to the Hotel-Dieu on March 13th, 1904.

On examination the patient presented a large mass protruding from the mouth, and bulging out the skin over the upper jaw, especially on the left side. In its greatest circumference the mass measured 53 centimeters, or 21 inches, which is about the size of a normal adult head. In shape the tumour was irregular and knobby, and its surface was divided into lobes by deep sulci, from which this watery pus exuded. The colour was a dark red, with numerous yellow and grey ulcerating patches. The cheeks were bulged, especially on the left side; the skin tense and congested. The nasal apertures looked forwards and slightly upwards, and were widely stretched laterally. The lips were flattened and stretched, the total contour being 47 centimeters, about 19 inches. The orbicularis muscle still preserved its power. The hard palate was deformed by the unequal growth of the tumour, and a few teeth remained in abnormal and widely separated localities.

Examination of the pus gave negative results as to tuberculosis or actinomycosis, and a diagnosis was made of non-malignant tumour, probably fibro-chondroma.

On March 30th the mass was successfully removed by Dr. Marien.

Preliminary high tracheotomy having been performed, a median incision was made to the nasal septum, and thence around the nostrils, and along the lower margins of the orbits to the external canthus on either side, and the flaps raised. On the right side the orbital periosteum was detached, the molar bone and nasal process of the superior maxilla cut through, by means of a specially large gouge. On the left side the lower orbital margin was left untouched, the molar and nasal process of the superior maxilla was sectioned, and the rest of the superior maxilla was removed by chisel from the orbital plate. The mouth was then forced open and the last two molar teeth extracted. The muco-periosteum was cut transversely, and the hard palate cut through by hammer and gouge about the junction of the maxillary and palatine bones. The mass was then detached by scissors, and the hæmorrhage, which was not profuse, was controlled. The cheeks and lips were then sutured in the usual way.

When removed, the mass was found to be quite hard, and weighed three and a half pounds.

Sections through the mass at different points showed that it was of the same consistency throughout. It is composed of cartilaginous tissue, in which are embedded numerous small bony masses, quite separated

from one another by the intervening cartilaginous tissue. The arrangement of the sulci makes it apparent that the mass in front can be divided into two parts corresponding to outgrowths from each superior maxilla.

Microscopic examination of sections from this tumour show fibrous, cartilaginous and bony tissue in varying proportions, and confirm the diagnosis of osteoid fibro-chondroma.

The patient made a satisfactory recovery, and was discharged May 24th.

The points of interest in this case are: *First*, the formation during over three years of a series of spontaneous abscesses, which seem to have originated towards the centre of the mass, possibly in either antrum; *secondly*, the patient's health and strength, when admitted, were good, despite the existence of the tumour for five years; *thirdly*, the slow growth and non-malignancy of the mass, although one of the sections taken from the anterior surface of the tumour shows, by the large number of cells, a tendency to sarcoma; and, *finally*, its large size, as tumours of its dimensions at the present time are extremely rare, and for descriptions and engravings of them one has to look chiefly to text-books of a century ago.

POISONING BY NITROUS OXIDE GAS.

BY

C. J. EDGAR, M.D.

During the last few years manufacturers of nitric acid have found that, after the inhalation of certain gases evolved in its manufacture, some of their employees developed symptoms which occasionally resulted in death. The wide difference in the symptoms shown in different cases, the comparative infrequency of fatal results, and the instability of the gases responsible for the poisoning have until recently prevented an intelligent study of the subject. The gas or gases which are so dangerous are all grouped together under the general mass of "nitrous vapours" or "nitrous fumes," and consist of nitrogen monoxide, dioxide or trioxide, according to the amount of its dilution by the surrounding atmosphere. It is probable that the less the dilution with oxygen the more fatal will be the effect of the fumes, but even this is uncertain, as it is quite possible that its dilution to a point allowing of its easy inhalation renders it still more dangerous. Cases occur with some frequency where, after working for some time exposed to these fumes, a tightness is felt across the chest, with a sense of suffocation, accompanied with cough and some bloody expectoration. These symptoms usually pass off in a few hours, but occasionally a sharp bronchitis or even congestion

ensues. Indigestion, anæmia and general malnutrition are frequent among this class of workmen, and cramps, followed by vomiting, occasionally occur. Cases have been reported of death caused by cramps coming on suddenly some time after the inhalation of these fumes, but details are lacking, and the explanation that death is caused by the vapours being oxidized in the human body to nitrous acid is far from satisfactory.

During the ten years in which nitric acid has been manufactured at the works of the Nicholas Chemical Company at Capelton, Quebec, only two deaths have occurred from these fumes, and these were both from œdema of the lungs, which came on gradually, and only began apparently some hours after the inhalation of the gas.

The task of cleaning out the residue which forms in the tanks in which the acid has been stored, and in which the concentrated fumes have been accumulated, seems to be especially hazardous; both deaths having occurred in men who had been thus employed. In the first case, after having done this work in the morning, the man went home to dinner, but complained of not feeling well, the not uncommon symptoms mentioned above being present. During the afternoon the symptoms increased in severity, but as there had never been a fatal case neither his friends nor his physician felt much anxiety. During the night, however, the pain and dyspnœa increased with great rapidity, and death ensued about six a.m. The autopsy revealed the usual condition found in death from œdema of the lungs; both of these organs being full of bloody serum throughout their entire extent.

In the second fatal case, the man, after doing the same work as had been performed by the other victim, went home about five in the afternoon, had his supper and then, in company with a friend, drove to Sherbrooke, a distance of eight miles. He made no complaint of feeling unwell, but spat some blood during the evening. He returned home about midnight and retired, but about three a.m. was taken very ill, with pain in the chest and dyspnœa. Symptoms of acute œdema of the lungs quickly appeared, and in spite of all efforts the man died in about twenty-four hours.

The autopsy in this case showed an exactly similar condition to the first; the entire area of both lungs being infiltrated with bloody serum.

Until the occurrence of these two deaths at Capelton, the inhalation of these nitrous fumes had not been looked upon by either the company or their physician as likely to prove fatal, and one at least of the victims had repeatedly performed the work before, without evil results. Therefore, previous to the first case, nothing had been done beyond the issuing

of printed rules for the guidance of the men while engaged at this work, the most important of which were that the men should always have help within reach should they be overcome by the vapours, and that they should only enter the tanks for a certain limited number of minutes at a time. In both cases it was afterwards claimed that the victims had violated the latter rule, and had not come out of the fatal tank for fresh air as instructed.

The literature on the subject was practically nil, and no antidote was known at the time the first death occurred, but shortly afterwards a contrivance, consisting of an inhaler containing a sponge saturated with alcohol 95 per cent., and worn over the mouth and nose, was introduced by Mr. Prichard, the superintendent of the chemical works at Capelton. This promised well theoretically, the chemical equations giving probability to the supposition that the nitrous fumes would be neutralized by the alcohol in their passage through the sponge, but as the second unfortunate man was wearing one of these inhalers at the time he did the work which caused his death, this hope was rather rudely dispelled.

Lately, however, Erich Weiskopf (*Zeitschrift für angewandte Chemie*, 1904, p. 122), has advocated the use of chloroform internally in three to five drop doses given in a glass of water every ten minutes, and the management of the Powder Works at Troisdorf, near Cologne, have given notice to their workmen that if any employee has breathed nitrous vapours the foreman or chief of the department must see that chloroform is administered in this way. In the works at Capelton several cases have since occurred, in which the initial symptoms were quite as severe as in the fatal ones, and in each case prompt recovery has followed the administration of the chloroform as suggested by Weiskopf.

The convulsions said to occasionally occur after the inhalation of nitrous or nitric acid vapours are explained by Dr. Seyffert, manager of the Powder Works in Troisdorf, as a reflex effect of the inhaled vapours upon the smallest sensory nerve endings of the respiratory tract. If these convulsions affect the heart, lungs or diaphragm, they may, if too long continued, cause death. Dr. Seyffert ascribes the beneficial action of the internal administration of chloroform to its well known power to inhibit, or at least to decrease, convulsive conditions or conditions of reflex irritability.

Convulsions have not occurred, however, in any of the cases at Capelton, and both of the fatal cases were due to oedema of the lungs, secondary, in all probability, to an acute congestion produced by the inhalation of these irritant gases.

The impossibility of recognizing serious cases of poisoning by nitrous

oxide gas, until it is too late, as shown by the complete absence even in fatal cases of unusual symptoms for some hours after its occurrence, renders it absolutely necessary, as is done at Capelton, for every workman thus exposed to receive immediately the chloroform treatment, as here laid down, and, so far, no fatal cases have been reported where this was done.

ROYAL VICTORIA HOSPITAL: TYPHOID FEVER REPORT FOR YEAR 1904.

BY

R. H. M. HARDISTY, B.A., M.D.,
Resident Physician.

During the year 1904, 154 cases of typhoid fever were treated in the wards. Of these 97 were men and 57 were women. The admissions each month were as follows:—January, 21; February, 8; March, 5; April, 5; May, 13; June, 6; July, 18; August, 26; September, 6; October, 9; November, 4; December, 33.

The average age of the patients was 20.76 years, the oldest being 48 and the youngest four years.

The average number of days in the hospital was 40.27, the longest being 166, the shortest being one day.

The average number of days of fever while in the hospital was 21; the longest, 132 days, which was a case complicated by phlebitis; the shortest was one day, where patient would not remain in the hospital. The next longest case was one with a moderate amount of fever and relapse; in this case the fever lasted 84 days.

In one case the temperature rose to 106°. This was a girl of nine years, who was admitted on the 9th day of disease. Her fever ran high, and lasted for 26 days. Patient went out cured 47 days after admission.

The patients were admitted at different times in the course of the disease. The average day of disease on admission was the 13th, but it ranged from the fourth to the 73rd day.

In eleven cases there were other cases of typhoid in the house at the time the patient was admitted to the wards. Two of these were resident in the hospital. In the other cases it was noted that typhoid fever was present in houses close by the homes of the patients.

SYMPTOMS:

(1) *Diarrhœa* occurred during the onset of the disease, and after admission to the wards, in 43.5 per cent. of cases, while constipation was an early symptom in 20.7 per cent. As a rule, all the patients, while

in the hospital, were constipated, and were treated with soap and water enemata every third day.

(2) *Epistaxis* occurred in 24.02 per cent. of cases, and was generally one of the first symptoms, but occurred several times during the course of the disease.

(3) *Vomiting* occurred in 37.6 per cent. of cases, and was almost entirely at the onset of disease.

(4) *Delirium* was present at some time during the course of the disease in 12.33 per cent. of cases, and was almost entirely of the quiet, muttering type.

(5) *Chills or Chilly Sensations* were experienced as follows during onset of disease:—Nine patients had chills during the course of the disease, varying in time from the second to the tenth week, and these chills seem to have occurred in the more severe cases, as six of the nine cases showed some complication. One patient (Case No. 9407) on the fifth day of normal temperature had a chill, and his temperature rose to 105.3°, and then fell to normal during the following 12 hours. The next day he had another chill, and his temperature rose to 105.40°, and fell to normal the same evening. Careful examination failed to find anything to account for this temperature. On the day of the first chill the leucocyte count was 7,000, and later 9,000. On the second day it was 12,000. The pulse remained about the same, and patient looked and felt quite well.

Eruption.—Rose spots were present in 81.16 per cent. of cases. They were present on admission in 53.9 per cent. of cases. It was definitely noted in 58.44 per cent. of the cases, when the rose spots disappeared, and the average duration of the eruption in these cases was 11 days.

Spleen.—The spleen was palpable at some time during the disease in 62.3 per cent. of the cases. It was palpable on admission in 43 per cent. of the cases. In 58 per cent. of the cases it is definitely stated when the spleen disappeared, and in these cases it was palpable during a period of between 17 and 18 days.

Ehrlich's Reaction was present in 49.3 per cent. of the cases. It was present on admission in 18.8 per cent. of the cases. It occurred as early as the fourth day of disease, and as late as the 74th day. The average date of occurrence in the cases in which it appeared was the 13th day of the disease.

The Widal Reaction was positive in 86.3 per cent. of all the cases. Some gave it as early as the sixth day of disease; another not till the 60th day. The average date of appearance of the reaction in these cases was the 18th day of the disease, that is, an average of five days after admission of all cases.

All the patients were given full liquid diet, but about one-half the cases were given soft foods as well, from the time of admission. Tub baths or sponge baths were used in the treatment of all cases for temperature of 102.2° or over. Twenty-nine cases were given sponge baths only. In all, 1,320 tub baths were given and 732 sponge baths. Soap and water enemata were used in all cases.

Of the 154 cases, 145 were discharged cured and nine died—a mortality of 5.84 per cent. Of the nine cases, one died of œdema of the glottis, two of hæmorrhages from the bowels, three of toxæmia, two as the result of perforation of the bowels and one as the result of perforation of the gall bladder.

Relapse occurred in nine per cent. of the cases. It occurred as late as 12 days after the temperature had become normal, but on an average it occurred seven days after.

The fever of the relapse lasted 28 days in one case, but on an average lasted only ten days.

Complications of more or less severity occurred in 37.6 per cent. of the cases. Arranged under the various systems they are as follows:—

Lymphatic System.—Tonsillitis occurred in three cases.

Circulatory System.—Femoral phlebitis occurred in five cases. It occurred in both legs in one case; in left leg in one case, and in right leg in three cases.

Respiratory System.—Pneumonia occurred in four cases; pleurisy in three cases; empyema in one case, and acute glossitis and œdema of larynx in one case.

Digestive System.—Hæmorrhage from the bowels occurred in twelve cases; multiple and severe in seven cases; and single and slight in five cases; perforation of bowels in three cases; perforation of gall bladder in one case; gastric ulcer in one case; appendicitis with abscess in one case.

Locomotor System.—Acute rheumatism with erythema multiforme occurred in one case; erysipelas in one case; furunculosis in three cases.

Genito-Urinary System.—Pregnancy occurred in two cases; retention in seven cases; acute nephritis in three cases; sub-acute nephritis in three cases.

Nervous System.—Hysteria, with the cataleptic state, occurred in one case.

Special Senses.—Suppurative otitis media was noted in six cases.

The following is a brief summary of the nine fatal cases:—

1. O. N., age 19, occupation waiter, was admitted on December 19, 1903, on the fifth day of disease, complaining of headache, loss of

appetite, pain in the right side, cough and toothache. On admission, the patient was a well nourished young man, weight 164 lbs.; had some slight cough, tongue furred, had some bad teeth. Mind clear. Temperature, 100.3°; pulse, 96; respiration, 20. On the seventh day of disease, rose spots appeared; the spleen was not palpable. The Widal reaction was given on the 15th day. On the 19th day the patient began to complain of a sore throat, and the pharynx on examination appeared reddened. Toxæmia began to be well marked at this time. By the 26th day the patient was delirious, and had attacks of retching; the throat was very sore and dry, the toxæmia marked. Two days later he began to have involuntary stools and incontinence of urine. On the 29th day of disease, at three-thirty a.m., the patient complained of a choking sensation. He was seen at four-forty a.m., when the tongue was enormously swollen and red, filling the whole mouth. There was much swelling below the angles of the jaw and upper part of neck on both sides. There was some purulent discharge from the ear.

The breathing was difficult and accompanied by the sound of mucus in the throat. The respirations were not more rapid than formerly, remaining about 26. The pulse remained about the same, as it had been for the last three days, 120 per minute. The patient became more and more cyanosed, and had increasing difficulty in opening his mouth. Shortly after six a.m. he stopped breathing without any struggle, giving only a gasp about every fifteen seconds. Tracheotomy was performed, and artificial respiration was kept up for some time, but without avail. The patient died at six-fifteen a.m. The spleen had never been palpable.

An autopsy was held eight hours after death. The amount of ulceration in the bowel was comparatively slight, and the ulcers were not deep. There was, however, an intense general acute inflammation of the lining of the intestines. There was intense inflammatory œdema of the epiglottis and glottis, which at autopsy was sufficient to practically occlude the opening; there was also an acute septic glossitis and pressure ulceration of the upper part of the œsophagus. Cause of death—œdema of glottis and epiglottis.

2. W. P., aged four, admitted January 31st, 1904, on 21st day of disease, complaining of abdominal pain.

Patient had been ill for three weeks with diarrhœa, and some abdominal pain. The afternoon before admission the abdominal pain became more severe, and he began to vomit and have more diarrhœa.

He was seen by a physician in the early evening, and found to be in a state of considerable prostration. Pulse, 160; temperature (by

rectum), 102. There was some rigidity of abdomen. The following morning his condition was worse, and he was sent to the hospital.

On admission, the patient was a poorly nourished pale child of about four years. Lips were dry and cracked, and the face had a drawn expression; skin hot. The child lay on back or left side with knees drawn up. Pulse rapid. Abdomen full, slight protrusion of umbilicus, and considerable resistance on palpation, most on the right side. There was pain on pressure, and also when the pressure was removed.

On percussion, there was liver dulness. On rectal examination, there was pain on pressure upwards, and some fullness of pelvis.

Leucocyte count, 8,600; *Widal reaction*, positive. Patient was operated upon the same night, and two small perforations found nine and thirteen inches above the ileo-caecal valve, and free pus and gas in the abdomen.

The patient did fairly well for some days, but died twelve days after the operation. Cause of death—Perforation of the bowel, with peritonitis.

3. W. L., age 30, mechanic, admitted February 18th, 1904, on the tenth day of disease, complaining of headache, pains through the body, vomiting, chills, epistaxis and diarrhoea. On admission, patient was a well nourished, well developed man of about thirty years. Mind clear. Temperature, 103.3°; pulse, 112; respiration, 24. Pulse dicrotic, tongue coated, some soreness of abdomen, but no tenderness or rigidity; some rose spots visible over surface; spleen not palpable. Leucocyte count, 4,000; widal reaction, negative.

Patient was in the hospital eight days, during which time he became more and more toxic. At first he was only slightly irrational at night, but this became more and more marked, with increasing rapidity and softness of the pulse, and involuntary stools and urinary incontinence.

In spite of cold baths and stimulants internally, patient died on the 18th day of the disease. There was never any signs of blood in the stools, no tenderness in abdomen, and only slight distention. Leucocytes on the day of death were 5,400. The urine showed only a trace of albumen. The Widal reaction was always negative.

Autopsy one and half hours after death showed typhoidal ulceration of ileum and colon of about two weeks' standing. There was cloudy swelling of all the organs, and collapse of the lower lobes of both lungs. At autopsy the Widal reaction was positive. The lower lobes of both lungs were dark and airless and dry, a condition difficult to explain, except possibly as the result of an old pneumonic condition. Cause of death—Toxæmia.

4. M. S., age 28, telegraph operator, admitted April 30th, on the 28th day of disease complaining of weakness and sore throat.

On admission, patient was a rather anæmic young woman, cheeks flushed, lips dry and cracked, skin hot. Mental state normal. Temperature, 103°; pulse, 123; respiration, 24. Pulse rapid and soft, abdomen distended and many rose spots over surface, spleen not palpable. Urine contained albumen and a few blood casts, and gave a marked Ehrlich's reaction. During the first night patient complained of severe abdominal pain coming on shortly after being given a tub bath. There was some resistance over right lower quadrant of abdomen. Hot applications gave some relief. Leucocyte count, 6,600. On May 6th, patient was still complaining of sore throat, so was examined by Dr. Birkett, and nothing was found to account for the severe pain complained of. The Widal reaction was positive the same day. In the evening patient had a slight chill.

The following day patient was still complaining of abdominal pain, and had another slight chill. Leucocyte count, 5,200. The night of May 8th, patient was very restless, and moaned a great deal, and complained of pain across lower portion of chest. On the morning of May 9th there was some slight rigidity of right side of abdomen; pulse small and weak and rapid. There was no distention of abdomen, liver dulness coming well down to costal margin. Leucocytes, 4,200. On May 10th, early in the morning, pulse 152, respirations, 52, the abdomen distended and tender, but no rigidity. At one-fifteen p.m. the abdomen was noticed to be rigid, and patient was immediately taken to the operating room and the abdomen opened.

A perforation the size of a twenty-five cent piece was found in the posterior wall of the gall bladder. There was also general peritonitis.

The perforation was closed and the abdomen flushed out, but the patient died soon after reaching the ward. No post-mortem was held. Cause of death—Perforation of the gall bladder with peritonitis.

5. L. K., laundryman, admitted May 5th, on the 28th day of disease, complaining of headache, pain in the stomach, cough, with reddish expectoration.

On admission the patient was a poorly nourished Chinaman. Expression dull, lips and tongue dry and cracked. Mind clear. Had some cough, and there was marked cyanosis of fingers. Temperature, 103.2°; pulse, 120; respiration, 44. Pulse soft and rapid. Some rose spots, spleen greatly enlarged, Widal reaction positive. Patient continued to run a high temperature, with steadily increasing

pulse rate and deepening toxæmia. On admission he had early signs of consolidation at the right apex, and this became definite the day after. Patient died four days after admission. A post-mortem was held sixteen hours after death, and a great deal of ulceration found in both large and small intestine. There was also pneumonia of the upper right lobe. Cause of death—Typhoid with pneumonia.

6. M. B., age 29, domestic servant, admitted July 3rd, on the eighth day of disease, complaining of headache, weakness and diarrhœa. On admission—Patient, a very well nourished young woman of about thirty years, face flushed, lips dry, conjunctivæ suffused, skin warm. Temperature, 101.4°; pulse, 120; respiration, 24. Pulse soft, lungs clear, no rose spots seen, spleen not palpable. No Widal reaction; leucocytes, 5,400. Patient's condition remained about the same, and she continued to run an ordinary course till the 21st day of disease, when, while using the bed-pan, she had a slight hæmorrhage. During the next three hours patient passed some clots and fluid blood several times, amounting in all to about twenty-five ounces. Patient's condition became rapidly worse, pulse imperceptible at wrist, and the extremities cold and clammy. The following morning she had another hæmorrhage of about eleven ounces, and in spite of everything gradually sank and died at nine p.m.

A post-mortem was held thirty-six hours after death, and the ulceration of the intestine and lymphatic hyperplasia found to be very slight in amount and virulence. The site of the hæmorrhage was not determined. There was marked fatty degeneration of the heart muscle. The Widal reaction was never given. Cause of death—Typhoid with hæmorrhages.

7. D. H., age 23, carpenter, admitted August 12th, on the eighth day of disease, complaining of headache, backache and general weakness. On admission, patient, a well nourished young man, face flushed, tongue coated and tremulous; mind clear. Temperature, 103°; pulse, 96; respiration, 20. Pulse slightly dicrotic, some rose spots visible on skin, spleen not palpable. Leucocytes, 8,000. Widal reaction positive.

Three days after admission patient first complained of abdominal pain. Examination showed some distention and tenderness. The following day he vomited four times, and distention continued. The pulse and temperature remained unchanged. Leucocytes, 8,600. Patient continued to have a certain amount of distention, but no other untoward symptoms. On the 27th day of disease a friend gave him an orange, and he disposed of most of it. The following night he complained of some abdominal pain, and by the next morning this had

become severe. Examination showed tenderness over the lower portion of abdomen, but no rigidity. One and a half hours later the pain was very severe, and abdomen was quite tender and rigid all over; leucocytes, 9,333. The abdomen was opened two hours later, and a perforation low down in the sigmoid flexure found. There was much free fluid in abdomen. Patient died early the following morning on the thirtieth day of disease.

A post-mortem showed acute purulent peritonitis and ulceration in the ileum colon, sigmoid and rectum. The large intestine was more severely attacked than smaller. There was a half turn in the sigmoid, which had evidently helped to increase the distention of this portion of bowel.

S. J. R., age 25, clerk, admitted August 20th, on the sixth day of disease, complaining of headache and weakness. On admission, patient a muscular young man; mind clear. Temperature, 102°; pulse, 100; respirations, 22.

Complains of severe pain on swallowing; pharynx on examination is reddened. Abdomen is not distended, some rose spots over surface, spleen not palpable, leucocytes, 6,900. Two days later spleen became palpable and Ehrlich's reaction positive, and a culture taken from throat showed almost a pure culture of Klebs-Löffler bacilli.

Temperature ran high in spite of tub baths, and pulse became more rapid, soft and dicrotic. Delirium developed and became almost continuous, with cyanosis and involuntary stools and micturition. On the fifteenth day of disease the patient died. The Widal reaction was given the day before.

A post-mortem was held thirteen hours after death, and showed typhoidal ulceration of the small intestine, and all the organs showed the signs of extreme toxicity. The brain showed acute softening of the left temporo-sphenoidal lobe. Death due to toxæmia.

9. H. C., age 25, tailor, admitted August 24th, on the fifteenth day of disease, complaining of general weakness, pain in the abdomen, and loss of appetite.

On admission, patient was a well nourished young man. Skin and mucous membranes a good colour, tongue coated. Temperature, 103.4°; pulse, 118; respirations, 30. The abdomen was prominent, and covered with a thick layer of panniculus. There was no tenderness or rigidity. The spleen was not palpable. The disease ran an ordinary course, temperature rising to between 103° to 104° daily, pulse ranging in the vicinity of 120°, and patient appearing rather toxic. Rose spots appeared about a week after admission, and Widal reaction was given on the nineteenth day of disease.

On the twenty-sixth day, patient had a slight hæmorrhage and another the following day. Patient's general condition continued fairly good, but was still rather toxic. Eight days later, on the thirty-fifth day of disease, he had a slight hæmorrhage about eight a.m., followed later in the morning by two large ones. The patient sank into a state of collapse, and died about one p.m. No post-mortem was held. Typhoid fever with hæmorrhages.

The following two cases are of interest:—

1. D. M., artist, age 31, admitted April 14th, on the twelfth day of disease, complaining of weakness and loss of appetite. On admission, patient was a pale, poorly nourished young man; expression animated, mind clear. Temperature, 97°; pulse, 72; respirations, 20.

Respiratory and circulatory systems negative. Over chest and abdomen many rose spots were visible, and spleen was easily felt. The locomotor and nervous systems were negative. Urinalysis showed the urine to be normal; Ehrlich's reaction negative. On the evening of admission, the temperature rose to 102°, and he continued to have fever of a rather irregular intermittent type for about two weeks. The pulse rate was slightly increased. He remained in the hospital thirty days, and was then discharged cured. The Widal reaction was tried repeatedly, but was never positive. A diagnosis of typhoid fever, however, was made. On May 30th, sixteen days after patient had been discharged, he was readmitted, complaining of headache, weakness, loss of appetite and thirst, which symptoms he had had for a week. On admission patient did not look ill; face flushed, mental state clear. Temperature, 102°; pulse, 112; respirations, 24. Respiratory and circulatory systems were negative. The bowels were regular; there was no distention or abdominal pain. No rose spots visible. Spleen felt enlarged as before. The urine showed some albumen, blood cells and blood casts, and the Ehrlich reaction was strongly positive.

Five days after admission, on the twelfth day of his second illness, patient gave the Widal reaction. Patient remained in the hospital six weeks. He had some irregular fever for the first two weeks, and his urinary condition gradually improved. He was discharged cured on the fifty-second day of his second illness. Diagnosis—Typhoid fever with relapse.

A. M., clerk, age 23, admitted July 2nd, on the sixteenth day of disease, complaining of pain in abdomen, diarrhoea and general weakness.

Personal History.—Patient said he had had typhoid fever in January, 1904, which had confined him to bed for eleven weeks.

On admission, patient fairly well nourished, face flushed, lips dry; expression dull, intelligence good. Temperature, 102.1° ; pulse, 108; respirations, 24. Abdomen showed no distention, and numerous rose spots over surface. Spleen palpable. Ehrlich's reaction positive. The Widal reaction was given on the eighteenth day of disease and leucocytes 5,200 on the day after admission. Temperature ran a moderately high course; pulse slightly increased in rate, soft but not aortic.

On the morning of July 6th there was some fulness of abdomen, but no tympanites or pain. At six p.m. patient was seized with sudden pain in the abdomen. The bowels moved after the pain appeared, and caused him considerable pain. The pain continued, but he did not report it to the nurse till six-forty-five p.m. When seen immediately after, the pulse was rapid, expression anxious. An examination of the abdomen showed tenderness on pressure most marked on the right side. There was no rigidity. A deep breath caused pain, and there was limited abdominal movement on respiration; leucocyte count, 8,400. At nine p.m. there was slight fulness over right upper quadrant of abdomen. The pulse was becoming more rapid and respirations more thoracic in character. Tenderness over abdomen as before, but very little resistance and no rigidity. Leucocyte count, 10,000. At eleven p.m. patient was taken to the operating room.

Under ether the abdomen was opened by a median incision, and a perforation of the ileum was found about ten inches above the ileo caecal valve, with early peritonitis. The perforation was closed and the abdomen flushed out, and a tube and gauze inserted. Patient made an uneventful recovery, and was discharged cured on August 30th.

The first official publication made by the Council on Pharmacy and Chemistry appears in *The Journal A. M. A.*, May 27. A sub-committee has purchased in the open market original sealed packages of various proprietary and patent remedies containing acetanilid—some of them represented to be chemical compounds, and publishes results of its examination of them as follows:—Ammonol—Acetanilid, 50; sodium bicarb., 25; ammonium carb., 20. Antikamnia—Acetanilid, 68; caffeine, 5; citric acid, 5; sodium bicarb., 20. Koehler's headache powders—Acetanilid, 76; caffeine, 22. Orangeine—Acetanilid, 43; sodium bicarb., 20; caffeine, 10. Phenalgin—Acetanilid, 57; sodium bicarb., 29; ammonium carb., 10. Salacetin—Acetanilid, 43; sodium bicarb., 21; sodium salicylate, 20.

THE

Montreal Medical Journal.

A Monthly Record of the Progress of Medical and Surgical Science.

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TWO CONVOCATIONS.

The annual convocation of McGill University for conferring degrees in the Faculty of Medicine was held on the 9th of June. A similar meeting of the University of Bishop's College was held on the 31st of May. That makes two. Next year there will be but one, for Bishop's College has formally surrendered its right to teach medicine for fifteen years at least.

Upon another occasion we referred to the nature of the arrangement which was under consideration. That surmise has proved in the main to be correct, and the terms are now a matter of common knowledge.

We shall speak first of the earlier convocation. More than ordinary interest was attached to it, as the last of a series of annual ceremonies which have been held for the last 34 years, and from the fact that it afforded the first public opportunity for an expression of the sentiment of the University upon the amalgamation of the Medical Faculty with that of McGill. Therefore, the utterances of Chancellor Hamilton, Principal

Whitney and Vice-Dean McConnell on the one hand, and Dean Roddick, representing McGill University, were full of interest.

Dr. McConnell gave a short history of the events which led to the formation of the Faculty in 1871, and indicated its course and aim since that time. He gave expression to the natural regret which all experienced at the separation from the University of Lennoxville, with which their relations had been most cordial, but, with his colleagues, he agreed that the step which had been taken was in the best interests of the medical profession.

Dean Roddick spoke with that warmth of feeling which is habitual to him of the relations which existed amongst the authorities at McGill towards Bishop's, and more especially towards the members of the Medical Faculty. The amalgamation of the Faculties, he said, marked an epoch in the histories of both universities, and in that of the education of the province. It was true, he admitted, that the amalgamation of the Faculties meant the absorption of one, but this was bound to strengthen medical education in the province and in the country at large.

One other subject was common to all the speeches, the recent death of Dr. F. W. Campbell, Dean of the Medical Faculty of Bishop's College since 1882. As Principal Whitney remarked, "for many years, not only to the authorities of the university, but also to the outside public, that Faculty meant Dr. Campbell." After such fitting reference, he commented upon the unselfishness which had characterized the members of the Medical Faculty of Bishop's throughout the negotiations leading to the amalgamation. By diverting the negotiations into another channel they might have made arrangements better for themselves, but worse for the undergraduates, the graduates and the medical profession in general. The amalgamation had not been undertaken because the Faculty could not carry on its work. But the retirement of Dr. Campbell had brought them to the parting of the ways, and either it was necessary that the Faculty be re-organized or that it cease to exist as a separate body. Re-organization would have perpetuated a division in the medical profession. The amalgamation, on the other hand, would result in great development in medical education, and it would rally the strength of two important bodies in one centre. The medical students of Bishop's had been most loyal sons to their alma mater, and in their new allegiance he was confident that they would display the same loyalty and devotion to McGill.

The seventy-sixth convocation of McGill University, which was held in the hall of the Royal Victoria College, was also notable in several regards, especially as it represented the first official gathering at which

Bishop's College signified its new relationship, and that it marked the existence of the Faculty of Medicine as an integral part of McGill University in the fullest sense. Both of these happy consummations were referred to in the speeches which were made by Principal Peterson, Dean Roddick and Dr. Craik. Nine members of the Faculty of Medicine of Bishop's College were admitted to the degree of M.D., C.M., and seventy-three members of the graduating class were awarded degrees.

Dean Roddick referred to the material prosperity of the College in its support from all parts of Canada, and made special reference to the beginnings which have been made in the dental department. He spoke briefly of the amalgamation with the Medical Faculty of Bishop's College, and praised the spirit which had been shown by both colleges in the course of the negotiations. Reference was also made to the great advantages that will be derived from the existence of the new Maternity Hospital, and the Alexandra Hospital for Contagious Diseases, and, finally, to the question of Dominion registration.

Dr. Craik spoke upon the needs of proper housing for medical as for other students of the university, emphasizing the fact that hitherto the University has not been able to do anything towards this extremely important factor in university life. This is a large problem, and it was fitting that it should be here referred to. The public who attend university functions are all the better for knowing the difficulties that beset a college, and the college faculty and students are not the worse for being reminded of them. There is much to be done towards solving such questions as residences, fuller clinical knowledge on the part of students, greater use of the hospitals, more rigorous matriculation examinations—in fact everything that is meant by the motto, "grandescunt." That this convocation has marked so much material progress is a sign that the Medical Faculty of McGill must call upon itself for yet more.

ENLARGEMENT OF THE BORDERS.

The London *Lancet* of June 3rd gives the place of honour to a discourse in French, which occupies nearly five columns. It is entitled "Discours sur les Conditions Générales des Études Médicales et de l'Assistance Publique à Paris, à Propos du Voyage des Médecins Britanniques," and the author is Dr. Lucas-Championnière, surgeon of the Hôtel-Dieu.

The significance of the address lies not so much in what it contains as in the language in which it is printed; and, to print it so is a stroke of intelligence. The most which foreigners expect from Englishmen

is an amused toleration of the absurdities which they witness abroad. That they should betray any interest in their new surroundings or any comprehension of them, or any desire to understand them, would be to admit a refinement of intelligence, of which foreigners regard Englishmen as being incapable. All this, of course, is based upon improper knowledge, and Dr. Lucas-Championnière cannot conceal the astonishment which he felt upon learning that many of the visitors spoke the language of the country. He appears to have the impression that all Englishmen know how to speak French; but, like the sacred monkeys of Benares, being wise, they do not attempt to do so. He is frankly amazed at the gift of tongues which is possessed by Dr. Kingston Fowler and Dr. Augustus Waller, and finds them "remarquable par la facilité de leur élocution, par la perfection de leur langage et par la très juste et vraiment éloquente appréciation de l'oeuvre de notre grand Pasteur." Dr. Waller created something of the same impression when he spoke at Laval University during the meeting of the British Medical Association in Montreal in 1897, and we are glad to learn from so high an authority of his remarkable progress in the French language.

This discourse is valuable in itself as showing the difference between the methods of medical study which prevail in England and in France. In Great Britain—We are now following the *Lancet's* interpretation—individual effort is everywhere free and encouraged; in France the municipality or the State hinders the development of individual effort. In France the pupils at secondary schools are closely supervised; in Great Britain the boys at public schools have but little supervision. But when a French scholar enters upon his career as a medical student he becomes practically his own master. Attached to the Paris Faculty of Medicine are some 6,000 students, any one of whom can work just as much or as little as he likes. He is not tied to one hospital, but can attend any or all of the Paris hospitals, and he follows the teaching of any member of the staff of the hospitals as he pleases. In Great Britain the student is practically tied to one hospital, and is a pupil of the staff of that particular institution. In Great Britain the hospitals are autonomous institutions, while in France they are municipal or Government institutions. In Paris they are all under the Assistance Publique, an organization which may be roughly compared with boards of guardians, Local Government Board, and Metropolitan Asylums Board. All the Paris hospitals are under its control, as well as nearly all other charitable institutions. Its annual budget amounts to 45,000,000 francs, and it obtains its funds from certain endowments, from sundry taxes which it has the right to levy, and from a sum voted annually by the city of

Paris. Owing to anyone who is poor and in want having a right to hospital accommodation, the Paris hospitals are often much overcrowded.

We find further evidence in the *British Medical Journal* of even date, that the parochial and national boundaries of medicine have broken down, that Chauvinism, as Dr. Osler terms the narrow intolerant spirit, is passing away. Save for ten pages of comment upon purely local events, and 136 pages of advertisements, the whole Number is given up to a consideration of the medical profession abroad in its educational, social and economic aspects. This diffusion of knowledge must tend toward co-ordination of effort and community of feeling in which the lesser prejudices will be ultimately lost. The reader is warned that North America does not fall within the purview of the Number, and yet we find an admirable survey of the conditions which prevail in Canada by Malcolm Mackay, which extends to ten columns in length. Territorially at least, Canada is a not inconsiderable portion of that continent. With singular impartiality, an insert of four pages in praise of the *Practitioner* is admitted into the body of this Number, a journal which in its June issue indulges in some tolerably plain speaking about the British Medical Association. It says, "as conducted by its present wire-pullers, that body is a trade union naked and unashamed, and as such it represents the least noble elements in our noble profession." At this distance, and with our imperfect knowledge, we do not feel qualified to contradict the statement, but that does not prevent us from expressing the opinion that it goes beyond the facts. Certainly, there was no evidence of this spirit in the Association when it met in Montreal.

CANADIAN MEDICAL ASSOCIATION.

The thirty-eighth annual meeting of the Canadian Medical Association will be held in Halifax August 22nd to 25th, both days inclusive. From the nature of the correspondence which is being received, there is promise that this meeting will rival in importance the great gathering which was held in Montreal in 1897. We are requested by the Secretary to intimate that physicians who propose attending the meeting should communicate at once with the Chairman of the Information and Lodging Bureau, Dr. C. Dickie Murray, 66 Queen Street, Halifax, in order to secure adequate hotel accommodation. The rates will range between a dollar and a half and three dollars a day. The Secretary of the Committee of Arrangements is Dr. J. R. Corston, 111 Gottingen Street, Halifax.

The union of small medical schools under one management promises to be the feature of progress in the immediate future. Arrangements

have been made for the consolidation of the Kansas City Medical College, the Medico-Chirurgical College of Kansas City, and the College of Physicians and Surgeons of Kansas City. These schools will be merged and a faculty chosen which will become the medical department of the University of Kansas. In St. Joseph, the Ensworth Medical College and the Central Medical College have combined, the institution retaining the name of Ensworth Medical College.

The Ontario Government has provided for a contribution of \$300,000 to bring about closer relations between the Medical Faculty of Toronto University and the Toronto General Hospital. Included in that general object is the replacing of the present hospital buildings by others of modern construction and equipment. To aid the enterprise the city will probably vote \$200,000. A site that commends itself to the trustees from every point of view is the area lying between University Avenue and the Dental College, running south from its College Street frontage to Chestnut Street. Located on this block, the hospital buildings would be most convenient to the Medical School.

As a result of the discussion aroused by the paper read by Dr. C. A. Hodgetts, Secretary to the Board of Health, before the Ontario Medical Association, in which he sets forth "A Plea for a Provincial Minister of Health," a resolution to that effect was unanimously adopted, and an advisory committee was appointed to wait on the Premier and cabinet to discuss the matter in all its bearings.

The *Brooklyn Medical Journal* for June contains as a supplement a classified list of the Sanatoria of the New England and Middle States. Many valuable particulars of each are given, and the list will be valuable for reference.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

The nineteenth annual meeting of this Association was held in the Windsor Hotel, Montreal, on the 13th and 14th of June, 1905, under the presidency of Dr. E. C. Burnett, of St. Louis, Mo. There were between twenty-five and thirty members of the Association present (the membership is limited to 50).

On the afternoon of Tuesday, the first day of the meeting, the members were received by Dr. Hingston at the Hotel Dieu and shown over

the Institution. Later in the day there were shown over the Royal Victoria Hospital by Dr. Bell and other members of the staff of the Hospital. In the evening they were entertained to dinner at the Hunt Club by Sir William Hingston and Dr. James Bell, the Montreal members of the Association.

The papers read at the meeting were of a very high order and were fully discussed by the members present. As will be seen by the programme, in the morning work of the first day a paper was read by Dr. Watson, of Boston, on certain aspects in the subject of bladder tumours, with special reference to operative treatment. Dr. Watson, in the course of his paper, made the suggestion that as a preliminary to removal of the bladder a double nephrostomy should be established, and mentioned a case which had been under his observation and that of Dr. Thorndyke for a number of years with a double nephrostomy, in which the man was in excellent health and made very comfortable by an apparatus worn upon the loins to collect the urine and was able to continue his work. In the programme of papers for the second day, the subjects referred to and discussed were mainly malignant disease of the bladder and cases of nephrolithiasis. Many specimens were shown both of tumours and of calculi removed from the kidney and bladder. On the morning of the first day a very unusual foreign body removed from the bladder by Dr. Van der Poel, of New York, was exhibited. The meeting was altogether of exceptional interest and the papers were discussed with much enthusiasm.

The following is a list of the papers which were read:—

Reflex Irritations from Lesions in the Male Urethra. L. Bolton Bangs, M.D. (New York).

Case of Extravasation of Urine, due to Phimosi; Retention of Urine, due to Foreign Body in the Bladder, of uncertain origin; Case of Unusual Foreign Body in the Bladder. Jöhn Van der Poel, M.D. (New York).

Abscesses involving the Perinaeum; Causes and Treatment. S. Alexander, M.D. (New York).

The Comparative Pathology of X-Ray Sterility. F. Tilden Brown, M.D. (New York).

Some Cases of Incompetence of the Bladder in young men. James Bell, M.D. (Montreal).

Rupture of the Male Urinary Bladder; Account of three cases. Orville Horwitz, M.D. (Philadelphia).

Certain Aspects of the Subject of Bladder Tumours, with special reference to Operative Treatment. Francis S. Watson, M.D. (Boston).

The Visual Examination of the Urethra and Bladder. Wm. K. Otis, M.D. (New York).

Case of Papilloma of the Bladder; Supra-pubic Cystotomy. Alfred C. Wood, M.D. (Philadelphia).

Report on Cases of Malignant Tumours of the Bladder. Harvey G. Mudd, M.D. (St. Louis).

Graduated Tunneled Sounds for rapid Stricture Dilatation and Guides in External Urethrotomy. John Van der Poel, M.D. (New York).

A Combined Shoulder, Yoke, and Leg Crutch in Perineal Prostatectomy. F. Tilden Brown, M.D. (New York).

Sarcoma of the Prostate. Chas. L. Gibson, M.D. (New York).

Carcinoma of the Prostate; Report of three cases treated by Perineal excision of the entire Prostate, Seminal Vesicles, and Suture of a Cuff of the Bladder to the Membranous Urethra. Hugh H. Young, M.D. (Baltimore).

An attempt to utilize the Electric Conductivity of the Urine for Clinical Purposes. Louis E. Schmidt, M.D. (Chicago).

Presentation of Specimens of Urinary Calculi. Bransford Lewis, M.D. (St. Louis).

Case of Marked Renal Lithiasis in which 80 Calculi were removed. Supra-pubic Prostatectomy. Alfred C. Wood, M.D. (Philadelphia).

The Etiology of Hypernephroma. Causes of death in two cases. F. Tilden Brown, M.D. (New York).

Cases illustrating points in the Operative Treatment of Stone in the Kidney. Paul Thorndike, M.D. (Boston).

Kidney showing Repair after Nephro-lithotomy. Chas. L. Gibson, M.D. (New York).

Reviews and Notices of Books.

THE VERMIFORM APPENDIX AND ITS DISEASES. By HOWARD A. KELLY, A.B., M.D., and E. HURDON, M.D., with 399 original illustrations, some in colours, and three lithographic plates. Philadelphia and London. W. B. Saunders & Co., 1905., pp. 827. Toronto. J. A. Carveth & Co.

This is truly a monumental work and must have taken much money, time and brains. There is nothing left for any one else to say about the appendix. The illustrations are magnificent and profuse. The anatomical chapters, written by Mr. Broedel, and illustrated chiefly by his wife, are very good and most valuable. Many workers have helped the authors in the preparation of this huge work, and many surgeons have placed their material at Dr. Kelly's disposal. The book com-

mences with three chapters on the history of appendicitis. The first surgeon, according to the authors, who made the diagnosis of appendicitis, and operated deliberately for this affection, was Krönlein, in February, of 1884; the case was published in 1886. In this connexion, a clinical lecture on inflammation and perforation of the appendix vermiformis, by the late Dr. R. P. Howard, is referred to. This was delivered in 1858. The anatomy—embryological and comparative—and the many forms and anomalies are fully described and illustrated, and the various peritoneal folds and fossæ are fully described, and also most beautifully illustrated. The most common position of the appendix is often pre-cæcal, which, in disease, would mean danger to the patient. The structure of the appendix is carefully worked out, and profusely illustrated. The arteries, veins, and lymphatics of the appendix, and the nerves, take up a chapter of 45 pages, beautifully and profusely illustrated.

In the chapter on the physiology, the function of the appendix is discussed—whether or no it is of any use, and has a special function, or has nothing more than a small share in the general intestinal system. This is very shortly discussed, and no conclusion is arrived at. The appendix is rich in lymphoid tissue, and is said to be closely related to the tonsil. Has it an influence on the system, such as the thyroid, thymus, suprarenals? This is difficult to believe, for it has been removed innumerable times in the living subjects without any evil results. Sir Wm. Macewen's views on this subject are not referred to; no doubt they appeared too late.

The natural history of the appendix is next considered, and then the post mortem appearances of acute appendicitis, and its complications, and influence on other organs, such as the liver, is thoroughly discussed, statistically and otherwise. A beautifully illustrated case of liver abscess, originating in the appendix, is supplied by Dr. J. G. Adami, of McGill University. The bacteriology occupies a chapter, followed by four chapters on the pathology of the appendix, most marvellously illustrated by many coloured and other plates.

The etiology, clinical history and diagnosis, is next considered, each having a separate chapter. Then comes a chapter on appendicitis in typhoid fever, and next, appendicitis in the child. It is stated that Betz, in 1870, first published a paper on ileus due to appendicitis in a child; but Professor A. H. Holmes, in the *British American Journal of Medical Science*, in 1847, published a paper on appendicitis, in which he relates a case of peritonitis due to perforation of the appendix in a child 20 months old, and also gives a coloured plate showing the gangrenous state of the appendix.

Typhlitis is noticed in a chapter, and cases are mentioned where the cæcum was involved, being inflamed or ulcerated and the appendix normal.

We now come to the most important chapters on treatment. First, there is a chapter on the general considerations regarding operations; next, preliminaries to operations. Then comes the considerations on incisions, which have a whole chapter to themselves, and a plate in illustration is shown of this region which looks more hacked up than any St. Sebastian; but the mutilation is confined to the right side of the median line. Sixty pages are devoted to an account of the removal of the appendix. This chapter is magnificently and richly illustrated. Almost every known method is described, simple and complicated, but no one method is recommended. In this chapter is an interesting cut (Fig. 259), entitled "A collective picture, showing the various points of attachment of the vermiform appendix to the gall bladder, kidney, abdominal wall, ileum, uterus and adnexa, sigmoid flexure, bladder and a hernial sac." When to operate is considered, and also the intermediate operation. It is stated that the ideal time for operation in acute appendicitis is within the first few hours, and not later than 24; but for this ideal a good surgeon must be available. If a good surgeon cannot be obtained, then it is better to take the chances of spontaneous cure. The most desperate cases sometimes recover, and in these cases, say the authors, the only contra-indication to operation is the certainty of approaching death, and we agree with this.

Chapter XXVI. treats of abscess in the neighbourhood of the appendix and many interesting cases are narrated. In abscess cases the practice of always removing the appendix is condemned; if it can be removed easily, without too great disturbance of parts, then, of course, its removal is advised. Subphrenic abscess is described and illustrated. In diffuse, purulent peritonitis the affection may seem general, yet not involve by any means the whole peritonæum. J. M. Burkhardt proposes the term "progressive" for these cases. The term "diffused peritonitis" is used in contra distinction to "circumscribed," limited to the right iliac fossa. We agree altogether with the statement that if streptococci are found the prognosis is far more serious than in a more extensive colon bacillus infection, even though the disease is limited in its area. We heartily agree with the authors when they condemn the practice of some surgeons in getting the patients up too soon after the operation. The "up in eight days" patient, often weeks afterwards, is still unfit for work. The after treatment is practical and to the point, and the sequelæ are fully discussed.

Two chapters are taken up with the relation of appendicitis to

gynæcological affections to pregnancy, labour, and the puerperium. There is also a chapter on benign and malignant tumours of the appendix, and another on tuberculosis, actinomycosis, and amœbic dysentery of this troublesome appendage. Also methods of operating for the removal of ileo-cæcal tumours are described. Finally, we have a chapter on the medico-legal aspects of appendicitis.

From this analysis of the book, it will be seen that the work is encyclopædic. No amount of expense or pains has been spared on its preparation, and one is rather staggered by the amount of material that has been collected, and the enormous literature on such a small part of the anatomy. Of course, the book can only be used as a work of reference; but any one who can delve in this mine will find much pleasure—and treasure also.

F.J.S.

A MANUAL OF PRACTICAL HYGIENE. By CHARLES HARRINGTON, M.D., Assistant Professor of Hygiene, Medical School of Harvard University. Fourth Edition. Philadelphia: Lea Brothers & Co. 1905.

The latest edition of this work is decidedly a gain to the student of public health. Reversing the usual order of things, we may summarize at the commencement in a very few words, by saying that this book is by far the best of its kind published on this continent, and in this the last edition the subject matter has been brought up to date; at the same time the chapter on immunity, etc., fills in a gap which has hitherto been greatly needed.

Criticising in detail the different sections of the work, it must be noted that the chapter on foodstuffs, etc., is particularly full, supplying all the facts required by any student, but this exhaustive treatment of the subject rather overshadows the other sections of the work, e.g., the chapter dealing with ventilation. Another praiseworthy point in the chapter on "Soils." It is pleasing to see such an important subject receiving a good measure of attention from the author, for in most textbooks on Public Health the question of "soils, etc.," is usually disposed of so briefly as to amount almost to a cypher. In the chapter dealing with water supplies, a slight re-arrangement would be welcomed by the student; the primary division or classification of water into rain, surface and ground-waters, is made, each receiving a certain amount of description; then after a skip of ten or twelve pages, devoted to practical analyses, it is taken up again, and "finished off" so to speak, which is perhaps a trifle confusing.

Lastly, in dealing with vital statistics, fuller details with reference to the computation of various items, e.g., census, life tables, etc., would

bring this chapter more in keeping with the excellent standard of the other important sections. The remaining portions are all stamped with the mark of excellent work and thoroughness in the treatment of the various subjects; and, with the suggested additions and alterations, nothing could better meet the requirements of the student seeking knowledge either as undergraduate or as post-graduate entering for higher degrees.

A TEXT-BOOK OF MEDICAL CHEMISTRY AND TOXICOLOGY. By JAMES W. HOLLAND, A.M., M.D., Professor of Medical Chemistry and Toxicology and Dean of the Jefferson Medical College, Philadelphia. In one volume of 592 pp., fully illustrated. Cloth, \$3.00 net. W. B. Saunders & Co., Philadelphia; J. A. Carveth & Co., Toronto.

This volume is divided into four parts:—Physics—Under which is considered matter and force, meteorology, heat, magnetism and electricity and light. Inorganic Chemistry—Consideration of all the metallic, non-metallic elements and chemical compound used in medicine. Organic Chemistry—Study of organic formulas and ultimate analysis. The carbohydrates are divided into monosaccharids, disaccharids and polysaccharids: short chapter on ptomaines and toxins, albumins or proteid matter, ferments or enzymes. Physical and Clinical Chemistry—Under this heading are considered digestion (saliva, gastric contents, pancreatic juice, bile and intestinal juice), blood, milk and urine. This last section might have been enlarged to advantage.

The author has endeavoured to connect the chemical and therapeutical value of the various chemical compounds, so that the student will be made to feel that chemistry is of practical value to him in the study of medicine. We should like to draw special attention to colour plate No. 3, "phenylhydrazin test for sugars." Until recently students have been taught that the phenylhydrazin test was only used for glucose, but the author shows in a beautifully coloured chart the difference between phenylglucosazone, phenylmaltosazone and phenylactosazone crystals. The book is original in many ways, and will be found valuable to students and practitioners.

THE DOCTOR'S RECREATION SERIES: The Doctor's Window, Poems by the Doctor, for the Doctor, and about the Doctor. Edited by IRENE RUSSELLE WARREN. The Saalfield Publishing Co., Chicago, Akron, New York. 1904.

The anthologist's is not quite the *dilettante* business for which it is too often and ignorantly derided. The reader in his own pleasure forgets, and should forget, the Editor's labour, but the labour is none the

less real, however pleasant it may have been. To make the access to the muses easier when, in the hour of need, they are required to uplift and console is a useful office. Upon four previous occasions we were permitted to call attention to this series of books, which is intended for the recreation of physicians, by gratifying their interest in literature in so far as it pertains to medicine. The present is volume five, and it contains 133 pieces of verse by 115 authors, which deal with some aspect of the profession. The ground which is covered extends from Geoffrey Chaucer to William Henry Drummond, from the "Canterbury Tales" to the "Habitant." In so great a field we must not complain if there are tares in the wheat. Certainly the editor has allowed both to grow together with singular impartiality. If only the good had been retained, the book would have been much smaller. Yet, Sydney Dobell, Austin Dobson, Samuel Garth, W. E. Henley, Ben Jonson, Frederick Locker-Lampson, Matthew Prior are all here, beside the sweet singers of the annual dinners, of the convocations and the college journals. Henley's "In Hospital," 29 pieces, is there in its entirety, and one cannot but hope that the conventions of copyright are observed. Those who are fond of bad poetry, by reading this book, will be compelled to read much which is good; but even bad poetry is better than none—it suggests that there is such a thing as poetry in the world and in the profession of medicine.

ARNEILL'S EPITOME OF CLINICAL DIAGNOSIS AND URANALYSIS. A Manual for Students and Practitioners. By JAMES R. ARNEILL, A.B., M.D., Professor of Medicine and Clinical Medicine in the University of Colorado. 244 pages, with 79 engravings and a coloured plate. Cloth, \$1.00, net. Lea Brothers & Co., Philadelphia and New York, 1905.

This is the seventeenth of the large series of 22 Epitomes, from the editorship of Dr. Pedersen; it is a compend of the work of blood and urinary examination, as well as that of sputum, fæces, stomach contents, cerebro-spinal fluid, milk, etc., and it is compressed into small space, printed upon thin paper, and there is certainly a remarkably large amount of information in a volume not more than half an inch thick. It appears to be a book that can be heartily recommended to students or any who have much work in a clinical laboratory; it certainly has the virtue of terse and concise statement. The present writer has not seen a book on this subject which adheres so closely to the practical side of the subject, and takes so great care to guard against the introduction of too many words; the result is that any experiment or piece of clinical examination undertaken, could scarcely be misunder-

stood by the densest reader, and the different steps in a procedure are paragraphed, so that the whole process has a sequence that will go far to make it clear in the mind of one who performs it for the first time.

DISEASES OF METABALISM AND NUTRITION. VON NOORDEN, Part VI.—

Drink Restriction (Thirst Cures), particularly in Obesity, by Prof. CARL VON NOORDEN and DR. HUGO SALOMON. New York, E. B. Treat & Company, 1905. pp. 86.

After reading this book one is left with a very definite impression, namely, that the most necessary part of a treatment of obesity is restriction of fluids, especially at times when food is taken. Further, there is a great need to lessen the work of the heart in cardiac disorders by restricting the amount of fluid ingested. The first part of the book contains the history of the idea, which, it will be gathered, is by no means new; following this, the physiology of the effects of thirst is discussed, and, finally, in a summary, the author states that he believes drink restriction necessary in cardio-vascular diseases, diseases of the stomach and kidneys, where high blood pressure is undesirable, in obesity, in chlorosis, in some cases of cirrhosis of the liver, and in hæmorrhage. The author is moderate in his statements, when one considers that he is keenly promulgating doctrines that are not universally believed, and that he is speaking of a subject where investigation has not had great space, and where personal opinion has hitherto reigned. The translation is under the supervision of Boardman Reed, M.D.

A TREATISE ON ACUTE CONTAGIOUS DISEASES. By WILLIAM M. WELCH, M.D., Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases; Diagnostician to the Bureau of Health, etc., Philadelphia, and **JAY F. SCHAMBERG, A.B., M.D.,** Professor of Dermatology and of infectious Eruptive Diseases, Philadelphia Polyclinic; Consulting Physician to the Municipal Hospital for Contagious and Infectious Diseases, and Assistant Diagnostician to the Philadelphia Bureau of Health, etc. Octavo volume of 781 pages, illustrated with 109 engravings and 61 full-page plates. Cloth, \$5.00, net. Lea Brothers & Co., publishers, Philadelphia and New York, 1905.

Probably no two persons are better qualified by reason of wide experience to write a book upon contagious diseases than Dr. Welch and Dr. Schamberg, and no publishers more liberal in the use of illustrations than Messrs. Lea. The plates are the glory of the work, though we have nothing but praise for the text. The discussion of small-pox is nothing short of masterly. This book is likely to be the standard for a long time to come.

MATERNITAS. By CHARLES E. PADDOCK, M.D., Professor of Obstetrics, Chicago Post-Graduate Medical School. Cloyd J. Head & Co., Chicago.

This book of less than 200 pages is intended to aid the prospective mother during the period of pregnancy, and, in so far as we understand the matter, the advice appears to be sound. Many of the illustrations are fetching, but they suggest our early studies in *Harper's Bazaar* and the *Delineator*, and in other places a catalogue of furniture. We can testify to the truth of one observation at least, "that the ideas of the nurse may not correspond with those of the family" which employs her. It is questionable if books of this class, which are intended for mothers, prospective or otherwise, do more than minister to their curiosity.

THE FOUR EPOCHS OF WOMAN'S LIFE. Second Edition. By ANNA M. GALERAITH, M.D. With Introductory Note by JOHN H. MESSER, M.D. 247 pages. W. B. Saunders & Company. Cloth, \$1.50 net.

This work is written for the instruction of the laity, and the fact that a second edition has been demanded in such a short time is sufficient proof of its need. The language is clear and comprehensive, yet modest. As a further aid a comprehensive glossary of medical terms has been appended. In this new edition the author has made some additions, namely, a section on "The Hygiene of Puberty"; one on "Hemorrhage at the Menopause a Significant Symptom of Cancer"; and one on "The Hygiene of the Menopause."

Medical News.

MCGILL MEDICAL FACULTY.

The seventy-sixth convocation of McGill University for conferring degrees in the Faculty of Medicine was held on June 9th, 1905. The following is the list of names of those who secured the degrees of M.D.

Alguire, A. R., Cornwall; Briggs, J. A., New Westminster; Brown, F. F., Cornwall; Burgess, H. C., Sheffield Mills, N.S.; Chisholm, H. A., B.A., Lindwood, N.S.; Connor, E. L., Berlin; Costello, W. J. W., B.A., Montreal; Covernton, C. F., Montreal; Cumming, A., B.A., Scottsburg, N.S.; Dougan, B. H., Hampstead, N.B.; Dowler, W. H., Billings Bridge, Ont.; Dykes, W., Nanaimo, B.C.; Finigan, J. F., Oshawa, Ont.; Geddes, R. W., B.A., Deseronto; Gillis, J. H., Metapedia; Grimmer, R. D., St. Andrews, N.B.; Hannington, J. W. R., Victoria; Heagerty, J. J., Montreal; Henderson, E. H., B.A., Franklin Centre; Henry, E. G., B.A.,

Lennoxville; Hume, G. M., Leeds Village; King, S. S., Albert, N.B.; Leslie, H. A., Souris, P.E.I.; Likely, D. S., B.A., St. John, N.B.; Loggei, W. S. Chatham, N.B.; McDermott, J. H., Gordontown, Jamaica; McKay, M. E., Whycomomagh, N.S.; McLean, J. D., Beaton's Mills, P.E.I.; McDonald, J. A., B.A., Valleyfield; McDonald, J. C., Peak's Station, P.E.I.; McIntosh, G. J., Dalkeith; McLeod, W. A., Finch; McMicking, A. E. T., Victoria; McMurtry, S. O., B.A., Montreal; McMurthy, W. C., Port Hope; McNaughton, W. B., St. Raphael West, Ont.; Mason, J. H., Lachute Mills, Que.; Mersereau, H. C., Doaktown, N.B.; Miller, A. P., Chatham; Moffat, C. F., B.A., Montreal; Mohr, F. W. C., Arnprior; Muckleston, H. S., M.A., Perth; Mulligan, J. W., Omecmee, Ont.; Munro, J. A., Pugwash, N.S.; Nelles, T. R. E., Simcoe; Prendergast, A. R., B.A., Montreal; Pruyn, W. G., B.A., Napanee; Richards, E. T. F., St. Vincent, B.W.I.; Robertson, A. R., Victoria; Robertson, B. W., St. John, N.B.; Rommel, E., Alma, N.B.; Ryan, L. McD., B.A., Newburg, Ont.; Sawyer, A. R., Roslindale, Mass.; Scott, W. J., B.A., Montreal; Scrimger, F. A. C., B.A., Montreal; Seifedt, F. W., B.A., Quebec; Sinclair, E. E., Summerside, P.E.I.; Styles, W. A. L., Montreal; Smith, W. A., Almonte; Sullivan, J. A., Arnprior; Tees, F. J., B.A., Montreal; Tull, J. A. C., Antigua, B.W.I.; Turnbull, E. G., Branchton, Ont.; Valin, R. E., Ottawa; Viner, N., B.A., Montreal; Waterman, C., Ogdensburg, N.Y.; White, P. G., Woodstock; Wigle, C. A., Warton; Wilkinson, W. M., Woodstock; Winder, J. B., B.A., Compton; Winfrey, W. C., B.I., Sault Ste. Marie, Mich.; Wood, G. O., Kenmore, Ont.; Wood, W. H., Montreal; Young, C. A., Ottawa.

Prizes were awarded as follows:—Holmes Gold Medal, for highest aggregate in all subjects forming the medical curriculum—H. C. Mersereau, Doaktown, N.B.

Final prize for highest aggregate in the Fourth Year subjects—F. J. Tees, B.A., Montreal.

McGill Medical Society Senior prizes—First, F. J. Tees, B.A.; second, J. A. C. Tull.

Third Year Prizeman—R. S. MacArthur, Summerside, P.E.I.

Sutherland Medallist—D. R. Fraser, Montague Bridge, P.E.I.

McGill Medical Society Prizes (junior)—1st, W. L. Holman, Summerside, P.E.I.; 2nd, R. J. Monahan, Montreal.

Second Year Prizeman—R. M. Benvie, Salt Springs, N.S.

Senior Anatomy Prize—A. L. McLennan, B.A., Lancaster, Ont.

First Year Prizeman—R. H. McDonald, North Bedeque, P.E.I.

Junior Anatomy—R. B. Dexter, Wolfville, N.S.

Dr. H. C. Mersereau gave the valedictory address for the graduating class, and Dr. Elder replied in behalf of the faculty.

Addresses were delivered by Dr. Roddick, the Dean, and by Dr. Craik. These are referred to elsewhere in this number.

CANADIAN MEDICAL PROTECTIVE ASSOCIATION.

This Association was organized at Winnipeg in 1901, under the auspices of the Canadian Medical Association, and its objects are to unite the profession of the Dominion for mutual help and protection against unjust, improper or harassing cases of malpractice brought against a member who is not guilty of wrong-doing, and frequently suffers owing to want of assistance at the right time; and rather than submit to exposure in the courts, and thus gain unenviable notoriety, he is forced to endure blackmailing. The Association affords a ready channel where even those who feel that they are perfectly safe can for a small fee enrol themselves and so assist a professional brother in distress. Experience has abundantly shown how useful the Association has been since its organization. The Association has not lost a single case that it has agreed to defend. The annual fee is only \$2.50 at present, payable in January of each year. The Association expects and hopes for the united support of the profession.

The Executive is as follows:—President, R. W. Powell, M.D., Ottawa; Vice-President, J. O. Camarind, M.D., Sherbrooke; Secretary-Treasurer, J. A. Grant, Jr., M.D., Ottawa; Solicitor, F. H. Chrysler, K.C., Ottawa.

The Provincial Executives are:—

Ontario—E. E. King, Toronto; I. Olmsted, Hamilton; D. H. Arnott, London; J. C. Connell, Kingston; J. D. Courtenay, Ottawa.

Quebec—F. Buller, Montreal; E. P. Lachapelle, Montreal; J. E. Dube, Montreal; H. R. Ross, Quebec; Russell Thomas, Lennoxville.

New Brunswick—T. D. Walker, St. John; A. B. Atherton, Fredericton; Murray MacLaren, St. John.

Nova Scotia—John Stewart, Halifax; J. W. T. Patton, Truro; H. Kendall, Sydney.

Prince Edward Island—S. R. Jenkins, Charlottetown.

Manitoba—Harvey Smith, Winnipeg; J. A. MacArthur, Winnipeg; J. Hardy, Morden.

North-West Territories—J. D. Lafferty, Calgary; M. Seymour, Regina.

British Columbia—S. J. Tunstall, Vancouver; O. M. Jones, Victoria; A. P. McLennan, Nelson.

BISHOP'S COLLEGE.

The thirty-fourth annual convocation of Bishop's College for conferring degrees in the Faculty of Medicine was held on 31st May in the Synod Hall. Degrees were conferred upon the following graduates:—

F. W. Aris, C. S. Carmichael, R. B. Cunningham, G. W. Gallatly, F. D. Gill, E. H. Lawson, A. J. Moseley, H. G. MacKerrow, R. H. McRae, M. W. H. Pitman, N. Shacher, G. H. Silverman, H. M. Vartanian and P. Villard. Degrees in dentistry were conferred upon G. G. Armstrong, J. T. McCrea, C. Edwards and E. Elkam.

The honours of the final year were carried off by Mr. F. W. Aris, who won both the Wood and the Nelson gold medal. The Chancellor's prize fell to Mr. P. Villiard. The other prizemen of the Faculty were Mr. F. A. Norton, who won the David silver medal, and Messrs. H. C. Robins and W. J. Furst, the former winning the senior anatomy prize, and the latter the histology prize.

The Chancellor, John Hamilton, presided, and Dr. J. B. McConnell, vice-dean, read the report. The valedictorian of the graduating class in medicine was Mr. R. B. Cunningham, and Mr. G. Guelph Armstrong in dentistry. The reply on behalf of the Faculty was read by Dr. George Fisk. Addresses were also delivered by Principal Whitney and by Dr. T. G. Roddick, Dean of the Medical Faculty of the McGill University.

At the last quarterly meeting of the Montreal General Hospital the report of the medical superintendent showed that 731 patients had been treated to a conclusion in the quarter. There had been 61 deaths, 14 within three days of admission, or an average of 5.7 mortality rate for ordinary hospital cases. The number of hospital days had been 17,835, an average detention per patient of 24.3 days. The average number of patients in hospital was 198, the greatest number being 219, and the least 191. In the outdoor department there had been 11,129 consultations, compared with 9,204 of the corresponding quarter last year. The number of ambulance calls had been 318.

The Lambton Medical Association met at Wyoming on May 24th. President W. D. Newell, of Sarnia, occupied the chair. The following members were present:—Drs. Wilkinson, Logie and Newell, Sarnia; McAlpine, Petrolea; Brown, Camlachie; Newell, Watford; Harvey and Chappelle, Wyoming. Papers were read by Dr. Brown, of Camlachie, on suggestive treatment, and by Dr. Newell, of Watford, on unresolved pneumonia.

J. B. Lippincott Company announce that they will publish during the present year a translation by Dr. Albion Walter Hewlett of the third German Edition of the *Principles of Clinical Pathology*, by Dr. Rudolf Khehl, with an introduction by Dr. Osler. The work is well known in this country and in Europe as an authority upon the subjects treated.

At a meeting of the Board of Governors of the Notre Dame Hospital, Dr. Albert Demers was appointed medical superintendent in place of Dr. F. A. Fleury, who tendered his resignation. Dr. Fleury, who has been medical superintendent of the institution for many years, has gone to Paris, where he will take up special studies in connexion with the eye, ear and throat.

The Ontario Medical Association has elected officers as follows:—President, George A. Bingham, Toronto; first vice-president, Ingersoll Olmstead, Hamilton; second vice-president, E. B. Echlin, London; third vice-president, A. Gillespie, London; fourth vice-president, Hadley Williams, London; general secretary, Charles P. Luck, Toronto; assistant general secretary, Samuel Johnston; treasurer, Frederick Fenton.

A meeting of the medical men of Regina was held on May 23rd, when it was decided to organize a branch of the British Medical Association. The following were the officers elected:—President, Dr. Low; vice-president, Dr. Thomson; secretary-treasurer, Dr. Black; council of three, Dr. Hill, Charlton and Seymour. All the medical men in the prospective province of Saskatchewan will be invited to become members.

Dr. J. M. Barry was elected president of the St. John Medical Society at the annual meeting, held 31st May. Dr. T. H. Lunney was chosen vice-president; Dr. C. M. Pratt, secretary; Dr. James Christie, treasurer, and Dr. Margaret Parks, librarian.

The new medical council of British Columbia is as follows:—President, Dr. O. M. Jones, Victoria; vice-president, Dr. R. E. McKechnie, Vancouver; treasurer, Dr. W. J. McGuigan, Vancouver; registrar and secretary, Dr. C. J. Fagan, Victoria.

Port Huron's new hospital was opened to the public on 8th June. The cost of the building, exclusive of the land, is over thirty-two thousand dollars, and the building and its furnishings are said to be complete in every detail.

Dr. L. F. Barker, the successor of Dr. Osler as professor of medicine in Johns Hopkins University, Baltimore, was entertained at dinner on 12th June, at the King Edward Hotel, by Toronto physicians who were members of his class of 1890.

Messrs. Lea Brothers & Co. announce a new edition of *Gray's Anatomy*, to be published about midsummer, and embodying nearly two years of labor on the part of the editor, J. Chalmers DaCosta, M.D., of Philadelphia, and a corps of special assistants.

The first international congress for the study of radiology and ionization will be held during the present year at Liège, between the 12th and 14th of September (inclusive).

Dr. Edward Macklin, of London, died on May 29th. He was a graduate of the Western University, and at one time surgeon on the Allan line of steamships.

Retrospect of Current Literature.

MEDICINE.

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

ROBINSON, BEVERLEY. "Some Phases of the Neurotic Heart." *The Amer. Journal of the Med. Sciences.* June, 1905.

The neurotic heart ever affords an interesting topic for discussion, and not a few questions gather about this subject touching the management and treatment of such cases. Dr. Robinson concludes his discussion of some phases of the neurotic heart by saying he would specially emphasize certain facts which seem to him true, but as yet either insufficiently recorded or recognized, viz.:

1. "An apparent or evident slight cardiac enlargement with or without dilatation, and it may be slight hypertrophy, occasioned by or proceeding directly from a cardiac neurosis."

2. "A condition of secondary anæmia, as shown by a careful microscopic blood examination, with count and differentiation of white cespules, which remain stationary for a long while, despite the use of chalybeates and most rational treatment from every standpoint."

3. "The absolute or relative uselessness of digitalis, notably, unless the heart muscle is involved, and, even in these instances, for acute manifestations of weakness or failure strophanthus is far more useful."

4. "Impaired nutrition, at a given period, of the muscular walls of the heart under the immediate dependence, probably of diminished nervous energy, gives rise to slight cardiac dilatation at times, which subsequently, under judicious treatment, remains stationary as to amount, and becomes functionally compensated."

J. F. DIXON. "Course and Treatment of a Case of Chorea Insaniens, associated with Pregnancy." *The Dublin Journal of Medical Sciences*. March, 1905.

On account of the comparative rarity of cases of chorea-insaniens as well as on account of the apparent want of uniformity of opinion as to whether or not such cases should be certified as insane, and treated as lunatics, the writer sets forth the features as presented in a case so classified. It is noted that there are 226 cases of chorea on record as occurring in connexion with pregnancy, but it is not stated how many were of the maniacal type. Of these 226 cases, 6 preceded the pregnancy; 105 occurred during pregnancy; 31 in recurred pregnancies; 16 cases developed post-partum, while 45 cases terminated fatally. Chorea is comparatively rare in the last three months of gestation, and it is in this period that the writer's case occurred.

The patient, a bright, intelligent woman, aged twenty-two years, was admitted to the County Asylum, Arlesey, in October. She had been a laundry maid, and in the previous February had suffered an attack of rheumatism. While yet convalescing, she married in March, and in September she fell down stairs. About a week after this accident she became choreic. Beginning in the ring finger of the left hand, the movement gradually extended until the whole left side was involved. She lost sleep, and became violent. She was often abusive to her mother, and at times had the idea that she overheard people talking about her extravagance. She had delusions and hallucinations definite enough to constitute insanity in the eyes of the law.

At first, under the influence of good hygiene, Fowler's solution, and a bromide and chloral draught at night, she improved. Again sleep left her, and she became noisy and excited, and even violent, smashing furniture and severely handling two nurses. She had frequent crying fits; frequently held conversation with people under her bed, and often thought nurses were accusing her of all sorts of wickedness. She was delivered of a healthy male child on the 26th of November, but she had no interest in her baby. On January 30th she was discharged completely recovered.

CRAIG, JAMES. "Sequel to a case of Innominate Aneurysm reported in 1898." *The Dublin Journal of Med. Science.* May, 1905.

It is interesting to read a case report such as Dr. Craig gives of an aneurysm after many years. In June of 1897, the patient, a man of 65 years, presented the physical signs of innominate aneurysm. He rested in bed for over two months, and then began to move about from place to place, spending most of his time at continental health resorts. "He grew strong, lead an active out-door life, and never complained of illness." In the spring of 1904 he was at Wiesbaden. On Sunday, April 24th he was at a dinner party, and enjoyed himself thoroughly. On the following Wednesday he remained indoors, feeling out of sorts. That night he suddenly sat up in bed, blood poured from his mouth, and in a few minutes he was dead." At the post-mortem examination it was found that the aneurysm of the innominate, which was diagnosed years before, had become consolidated and did not give any trouble, but there existed a second—much larger—aneurysm of the thoracic aorta, which had perforated into the cesophagus close to the stomach, so situated that it probably could not be diagnosed at all.

In discussing this interesting case, Dr. Craig points out that, while the consolidation of the innominate aneurysm its wall measured about one inch in thickness) was in itself an interesting fact, the sudden death of the patient from rupture of another and much larger aneurysm seven years after the onset of the one which became quiescent is worthy of note.

WEST, SAMUEL. "The Treatment of Pleuritic Effusion by Paracentesis, and Incision in Serous Effusion, Empyema and Pneumothorax." *The Lancet*, March 25th, 1905.

Dr. West says that the derivative method of the treatment of pleuritic effusion has been tried and found wanting, and no wonder, as it is based upon incorrect theory. Early tapping has been advocated chiefly for two theoretical reasons—(1) that early tapping shortens the duration of the attack, and (2) that, if the lung be left long compressed by fluid, it will become bound down by adhesions and thus prevented from re-expanding. With these reasons West is not in accord. The reasons are not strictly accurate. Urgent dyspnea, due to congestion of the opposite lung—"a functional breakdown or incompetence, in which probably both the heart and the lungs take their share"—calls for immediate paracentesis. There are no contra-indications to paracentesis.

The best method of tapping a serous effusion is what is called syphonage. The apparatus consists of a trocar and cannula connected with a rubber tube reaching to the floor, its lower end dipping into and under a glass of sterilized water. West claims for this method the advantage of avoiding the distress so often arising during aspiration. Paracentesis may be repeated as often as is necessary, but when it fails, free incision may be necessary.

Empyema needs incision, and needs it early. The best place, when a choice is open, is just in front of the post-axillary border and on the transverse level of the nipple. Resection of a rib is not always necessary. Contrary to the general view, West states that there is no danger whatever in washing out the pleural cavity. He has washed the peura out many hundred times, and has never seen a patient become faint from it.

In discussing the subject of pneumothorax, the writer states that tapping may be indicated at two periods—(1) immediately after its occurrence, and (2) later when effusion has formed. For the first indication the apparatus for syphonage is used, and when serum or pus is found the treatment should be on general lines. The prognosis for hydro-pneumothorax is by no means bad, and West believes it would be better were paracentesis performed earlier than it usually is. The rule is laid down without hesitation that pyopneumothorax should in all cases be treated like empyema, i.e., the side should be laid freely open and drained so soon as the presence of pus has been established.

SHAW, H. BATTY. "The Treatment of Tuberculosis of the Lungs by means of Tuberculin and other Bacterial Derivatives." *The Lancet*, April 8, 1905.

For about fourteen years tuberculin has been before the profession, and during this time it has undergone several modifications. There is what is known as the "old" tuberculin, the original preparation of 1890, and tuberculin (T). Then, in 1897, Koch produced a series of tuberculins. Tuberculin Oberer, known as tuberculin O., tuberculin "rest," or tuberculin R., and tuberculin alkalinum or tuberculin A. The reason for the introduction of these agents was that it was felt that the original tuberculin contained but little of the toxic substances capable of provoking in the human body anything approaching to immunity. Of these three new tuberculins, whose method of preparation need scarcely be described here, tuberculin R. is the agent which is mostly

used. Besides these two groups—the old tuberculin and the new tuberculin of 1897, which has three varieties—there is yet another, known as Koch's new tuberculin, or better known as the "emulsion of tubercle bacilli" or "bacillary emulsion." Béranek, Denys, Hirschfelder, Hunter and Hahn and Ruppel have worked with tubercle bacilli, and have striven in various ways to gain some modifications of tuberculin, each more potent or less harmful than the other. Kleb's modification yielded a product of the nature of albumoses, possessing an enzyme action, and to this modification the terms tuberculocin and anti-phthisin are applied. Tuberculo-plasium, a solution obtained by Hahn, following Buchnes's method of hydraulic pressure of masses of tubercle bacilli. Von Ruck and Hunter have each prepared an aqueous solution of Koch's tuberculin, hoping to obtain an agent producing no harmful symptoms. So much for the various preparations derived from the bacilli of tuberculosis.

Then antituberculous sera have been prepared and recommended with more or less enthusiasm. They are produced in the same way as antidiphtheritic serum. The principle of preparation is "to secure the neutralization of toxins produced by the tubercle bacilli in infected individuals by the development of antibodies, to secure the production of bacteriolysins for the purposes of solution of the bacteria, or to increase the functions recently prescribed by Wright as an opsonic pressure or power present in the serum, by which power the bacilli succumb the more readily to the digestive action exerted by the phagocytes of the blood."

Maragliano and Marmorek's sera are those most in requisition. It is claimed for the former that it is both bacteriolytic and antitoxic. Marmorek aims at minimizing the animals in his experiments. Vaccination against tuberculosis is a misnomer in the first place. Theoretically and practically, the treatment is a serum treatment. The idea is that tubercle bacilli may be so attenuated by various means, that inoculation with them does not produce any tuberculous disease, but is capable of producing antibodies.

The serum of these inoculated animals has been used, and thus, as we have said, it is a serum treatment, or, according to Maraglino, the so-called vaccine he uses is non-living, so that it cannot be other than some form of tuberculin or serum.

Another method of treatment of pulmonary tuberculosis aims at overcoming the secondary infections, which prove so serious when once tubercle bacilli gain access to the lungs. The difficulty in finding an antistreptococcic serum which will, in a remedial sense, fit the particular streptococcus causing the septicemia is a very great one. The poly-

valent antistreptococcic serum may be found of some value under such conditions.

The application of tuberculin in treatment is described, and statistical results in early cases of pulmonary tuberculosis are published.

Of 656 reported cases, the percentage of cures observed in some instances for six years after treatment was 91. Of 651 cases not treated, only 62 per cent. of cures is reported.

Upon the use of Marmorek's serum opinions differ, and this seems only natural. From "no favourable results" to "distinctly beneficial results" the various reports run. One observer says the "results quite justify a continuance of the method." Maragliano's serum appears to be disappointing. The antistreptococcus treatment of tuberculosis has been tried in a very limited number of cases indeed, and for this, if for no other reason, nothing conclusive can be said concerning its use. In closing, Dr. Shaw says that, "judging from the evidence, it would seem that the use of tuberculin materially improves the results of treatment. It would seem therefore quite justifiable to supplement the ordinary treatment by sanatorium methods with this specific one. Tuberculin treatment is of little use alone, so that its re-introduction, though of such material value, would not reduce the cost of treatment."

W. F. H.

E. GRAWITZ. "Blood Diseases and Balneology." *Berliner Klin. Woch.*, May 8, 1905.

The author considers that in anæmia the most important feature to be aimed at is the prevention of circulatory disturbances and autointoxication; the ingestion of albumens and nitrogenous foods constitutes a danger of increased ptomain formation in the bowel, and he therefore advocates a vegetarian regime in severe cases, with temporary habitation in high altitudes.

E. RIEGLER. "A Method of Testing for Bile Pigment in Urine." *Revista farm.*, 1904, No. 3.

Two solutions are used—(1) 5 grms. paranitroamidobenzene are dissolved in 180 c.c. distilled water, and with this is lightly shaken 25 c.c. sulphuric acid; (2) 2.5 grms. sodium nitrate in 200 c.c. distilled water. These solutions keep well. To use the test, take 4-5 cc. chloroform in a tube, shake with the urine, and let the chloroform fall to the bottom; decant off the urine carefully, and shake the chloroform with a similar quantity of 96 per cent. alcohol; into this put 5-6 drops of each solution, and shake well. If bile pigment is present, a red or

orange colour appears in the chloroform at the bottom. This method is said to be much more delicate than Gmelin's test.

CARLOS FRANCA, Lisbon. "The Treatment of Epidemic Meningitis."
Deutsche Med. Woch., May 18, 1905.

Franca injects by lumbar puncture 25 to 50 c.c. of a one per cent. solution of Lysol; in adolescents he used 12 to 18, in children 3 to 9 c.c. The injection is attended by rapidly-disappearing pain, and is continued daily till the bacteria are no longer found. His hospital statistics are as follows:—Previous to this method, of 47 cases, 63 per cent. died; by injection of cyanate of mercury in 9 cases, 66 per cent. died, and in 58 cases, treated by Lysol injections, but 29 per cent. were fatal.

B. STILLER, Budapest. "Internal Treatment of Cholelithiasis."
Wiener Med. Woch., No. 1, 1905.

This author's observations, supported by those of Chauffard independently, point to the usefulness of sodium salicylate, 0.5 g. (7½ grains) four times a day during the period free from attacks. To this, for analgetic effect, he adds .01 g. of extract of belladonna, and combines with it the use for two or three hours daily of warm applications to the liver region.

F. HUPPE (A. Hirschwald, Berlin, 1904). "Alcohol." Abstract from
Brit. Med. Jour.

F. Huppe argues that civilized man cannot exist without a stimulant of some kind or another, and distinguishes between the harmful consumption of "alcohol," made so prominent by temperance reformers, and the beneficial use of alcoholic liquors, even though the latter may contain as much as 60 per cent. of alcohol. He shows that alcohol can be a food, and can replace the fat or carbohydrate of a diet to a certain extent, just as it can act as a poison when taken in excess. It is not a protoplasmic poison, as HCN is, for example, and at the worst may be compared to a whip; for just as a whip stimulates a tired horse, so alcohol can stimulate tired muscles and nerves to further exertion. The connexion between beer-drinking and cardiac hypertrophy is not proven, and the author states that many medical men—Strümpell, for example—who at one time advocated teetotalism, now advise instead the moderate use of alcoholic liquors. Recommending the temperate use of alcohol himself, he says that it is entirely bad for children, for invalids of certain kinds, and for nervous persons in general; its use should be interrupted by periods of abstinence. He produces figures

to show that alcoholic excess does not tend to shorten life, or to the commission of offences against the law, and that it has no connexion with the occurrence of insanity. But he strongly recommends abstinence from alcohol to all weak-minded persons, and thinks that their education in this respect should be seen to by the State.

S. VON RUCK. "The Heart and Circulation of the Prognosis and Management of Pulmonary Tuberculosis." *Medical Record*, June 3, 1905.

S. von Ruck says that the relation of the heart and circulation to the course of chronic pulmonary tuberculosis is a factor both in the prognosis and management of such cases which is not generally accorded the attention and study which its importance demands. He suggests the analogy between the relation of the heart and circulation to the local disease in acute pneumonia and in chronic pulmonary tuberculosis. According to his conception this relation differs chiefly in that the pulmonary obstruction develops rapidly in the one, and more slowly in the other. By reason of this difference more can be done to conserve or increase the power of the heart in phthisis than is possible in acute pneumonia. It follows that close observation of the circulation in the course of phthisis is imperative and that a weak second pulmonary sound is to be regarded as a danger signal just as in acute pneumonia. Over exercise is considered by the author as a potent factor in the production of tachycardia in consumptives, and he cites statistics from the Winyah Sanitarium showing that of sixty patients with disturbed heart action, in fifty-eight per cent. over exercise had been a contributing factor in its causation. For the entire number of two hundred and sixty-one patients the figures show seventy-two and eight-tenths per cent. of satisfactory results, whereas for those with tachycardia the figures show only thirty-four and one-tenth per cent. The restriction of exercise for consumptives with weak hearts is strongly urged, and the physical management of such patients, together with the regulation of the diet, bathing, etc., is described in detail.

OSKAR KLOTZ. "Defects of the Agglutination Test." *Journal A.M.A.*, March, 1905.

Dr. Klotz calls attention to certain possible sources of error, aside from the necessity of a more uniform technic rendering possible comparisons of work by different observers. The age of the culture affects the result as its susceptibility to agglutinins increases for the first six months after isolation from the animal body and growth on artificial

media. Inoculations in animals with broth culture produces in their sera, beside the agglutinins, precipitins whose reaction in broth culture can not be distinguished from true agglutination, the organisms being deposited mechanically in the precipitate. Pseudo-clumping may be obtained by using emulsions of bacteria in undiluted broth and testing against the above serum. The agglutination of a micro-organism varies with the medium in which it is grown, the reaction of that medium, the temperature of incubation, and the number of organisms present in the emulsion. Pseudo-clumping may be due to sudden changes of temperature or to the addition of certain chemicals. Carbolic acid or chloroform added as preservatives to immune serum does not affect the agglutination reaction. In using the dried blood test, paper having a soluble gloss should be avoided for collecting the blood. Klotz finds the macroscopic method for determining agglutination the most useful and rapid, and places a time limit of three hours on all these reactions.

S. J. MAHER. "The Cause of Cerebrospinal Meningitis." *Medical Record*, May 6, 1905.

Dr. Maher describes cultural and animal experiments undertaken with pus from the spinal canal of an adult sick with cerebrospinal meningitis. The results lead the author to say that his findings seem to show that the diplococcus of Weichselbaum is only one phase in the life cycle of an organism, which at times is larger and rod shaped, at others small and of the shape of the pneumonia diplococcus, and probably at others of yeast shape.

W. T. HOWARD, JR. "Variola." *Journal A.M.A.*, April 8, 1905.

Dr. Howard, Jr., has followed up the study of the organism found by Councilman, McGrath, Brinckcroff and Tyzzer in variola and its life cycle. He finds that these bodies in their various stages are constantly present in the skin lesions of vaccinia and variola, and gives the technic of their study. Zenker's fluid is the only fixative that is satisfactory, and it is important that the section should be made so as to include the whole thickness of the skin. Mallory's is the best methylene blue eosin stain for these bodies, but other methods, such as that of Borrel and Weigert's fibrin stain, preceded by carmin, may be used. The bodies stain brilliantly, and with a good light and an oil immersion lens, should be easily recognized in properly prepared specimens. In the later stages of the disorder the Borrel stain is best. A second cytoplasmic stage recognized by Howard and Perkins is found only in well-established variola vesicles, never in vaccinia, so far as known. The other stages are the intranuclear ones, already described by Calkins, with

the exception of one which was not found by Howard, and which appears in the later stages of the eruption. It is useless to look for cytoplasmic forms (excepting in local autoinfections) in late lesions or for the intranuclear forms in early ones. The importance of these findings is in the service they may render in the early diagnosis of variola and vaccinia. Howard believes that this can be made in doubtful cases with the result of cutting short variola epidemics in their beginnings.

PATHOLOGY.

UNDER THE CHARGE OF J. G. ADAMI.

O. ISRAEL. "On Active Lymphocytosis and the Mechanics of Emigration." *Berliner Klin*, May 1, 1905.

Israel reasserts his belief that the lymphocytes have not, as have the leucocytes, a definite power of emigrating through the vessel wall; they are found in the blood, and outside the vessels in the tissue, but he considers the latter origin as due to their being born of pre-existent lymph sinuses and other tissue spaces. His conclusions are based upon the condition of the nucleus, which does not lend itself readily to great compression as does the leucocyte nucleus, and upon his failure to find them, with the most careful technique, in direct association with the vessel wall.

A. NEISSER, at present in Batavia. "Attempts at Inoculation of Syphilis upon Apes." *Deutsche Med. Woch.*, May 11, 1905.

Cutaneous injection was made in 25 cases with 23 successful results, so far as swelling, reddening, infiltration and glandular enlargement may be considered signs, when no mixed infection occurs; scarification of the skin was followed by rubbing in of condylomatous material. Subcutaneous inoculation of tissue failed throughout. Subcutaneous and intraperitoneal injection of undefibrinated blood was likewise useless. Inoculation from animal to animal was also without result. Material that could be injected from the spleen, bone-marrow and liver of infected animals, caused no signs of the disease in other animals; but these animals, at a later date, with one exception in a large series, were inoculated direct from the human subject.

ARNAL and SALMON. "Pathological Anatomy of Syphilitic Lesions in Anthropoid Apes." *Ann. de l'Inst. Pasteur*, July, 1904.

In connection with Neisser's work on apes, it is of interest that these observers find that the hard chancre of male chimpanzees shows the

characteristic histological signs of syphilis; the perivascular infiltration, the absence of giant cells, the absence of polynuclear cells, and the frequency of plasma cells are all observed.

LÖHLEIN. "On Fat Infiltration and Fatty Degeneration of the Human Kidney." *Virchow's Archiv*, Vol. 180, Part I.

Fat infiltration consists, according to the author, of the presence of fat droplets in the epithelium of the tubules, while the interstitial tissue is completely or almost free from fat; these cases are free from albuminuria. In fatty degeneration there is a deposit in irregular areas between the tubules of fatty substances, which have a partly crystalline composition; accompanying this form is albuminuria with great destruction of the tubular epithelium. The examples given from the former as types, are the kidneys of coma diabeticum, and of the latter, the kidneys of Bright's disease in its different forms.

H. KÜSTER, Göttingen. "On Glioma of the Adrenal." *Virchow's Archiv*, Vol. 180, Part I.

A new tumor has arisen, and Küster, under the guidance of Professor Ribbert, assigns it to the above stated category. In a child of 14 weeks, a supposed sarcoma of the kidney proved to be adrenal; in fact, both adrenals were the seat of growth, and a third tumor, considered as secondary, occurred in the liver. The second case occurred in a man who died of pyæmia following a septic arthritis; there were no metastases. The characteristics of the tumor are: (1) very numerous, circular nuclei, rich in chromatin, often in "rosette" formation; (2) almost complete absence of protoplasm belonging to the nuclei, its place being taken by a fine fibrillar network. The likelihood of the diagnosis being correct is, of course, borne out by embryological facts.

J. McC.

Society Proceedings.

SOCIÉTÉ MÉDICALE DE MONTREAL.

Meeting of 13th April, 1905.

DR. OSCAR MERCIER, PRESIDENT, IN THE CHAIR.

DR. DUBÉ read a paper upon the struggle against secret remedies.

DR. MERCIER reported two cases of strangulated hernia, from which he demonstrated the necessity of freeing the tumour in all its parts.

DR. DUBÉ read a paper upon acute dilatation of the heart and its treatment.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

The fifteenth regular meeting of the Society was held Friday, May 5th, Dr. J. A. Macdonald, President, in the chair.

CHORIO-EPITHELIOMA.

F. A. L. LOCKHART, M.D., read a paper on this subject, with report of a case; B. W. D. GILLIES, M.D., gave the pathological report.

WM. GARDNER, M.D. I was very much interested in this report of the very first case of this rare form of malignant disease which has appeared in Canada. I have been on the lookout for this condition for a good many years and have never yet, with any certainty, found a case. I can recall one, however, which in the light of the researches of Sanger and of the present paper was probably one of this kind. The patient was a young married woman who had been confined six weeks previously, and whom I was asked to see by the late Dr. Burland. The history was that of almost continuous hemorrhage. She was anesthetised, and on dilating the cervix, which was easily done, a mass the size of a walnut was discovered. This I took to be placental tissue. It was easily removed, but the hemorrhage was so frightful, in spite of packing the uterus, injecting vinegar (which was available at the time) and perchloride of iron, the woman died on the table. That is the only case occurring in my practice which I think was probably one of this kind, and that was some fifteen years ago. Since then, both in the General Hospital and in the Royal Victoria, though we have a fairly large amount of experience, my colleague, Dr. Chipman and myself have not yet discovered a case. Some years ago I exhibited a specimen of the hydatidiform degeneration of the chorion. The patient's uterus was as large as a six months' pregnancy, and half an ordinary pailful of these grape-like masses was expelled. As this disease is known to follow this degeneration I watched the case for some years, but the patient has always kept in apparently good health.

JOHN McCRAE, M.D. A year ago last February I received for examination the uterus from a case which I took to be one of this nature. The case occurred in the practice of Dr. Henry Howitt, of Guelph, and was that of a woman aged 35 years, the mother of four children. Within a short time, a comparatively small number of weeks, after an abortion there was a hemorrhage, which Dr. Howitt found to be quite intractable. Before operation he made a diagnosis of chorio-epithelioma and at once removed the uterus. The patient appeared to do well, but at the end of three weeks died suddenly, with symptoms of pulmonary embolism. The uterus had a tumour in the posterior wall about the size

of the first joint of the thumb, which seemed to grow almost without boundary into the uterine wall itself. Sections of this were made and the remarkable thing about the whole tumour was that with so unmistakable a tumour there should be so comparatively little active tissue, and yet the villi could be seen growing in the maternal sinuses and the layer of Langhans was found to be actively proliferating from its intense staining. To give Dr. Howitt further assurance I sent the specimen to Prof. Welch, of Baltimore, and his answer was that "if it was a tumour, it was certainly a chorio-epithelioma."

W. W. CHIPMAN, M.D.: We are all extremely interested in this report, and especially so in that these cases are so rare in Canada, although they are not so rare in other parts of the world. Through the kindness of Dr. Lockhart I saw several of his sections some time ago, and I confess that after looking them over I was extremely sceptical as to the real nature of this tumour. The specimens which I have looked at this evening seem very much more like the lesion in question, and certainly the clinical history of the case would seem identical with that of a chorio-epithelioma. I may say that I have seen sections from four cases of typical chorio-epithelioma and the microscopical appearance of the tumour as it appears in the typical arrangement is very different from the present case. To me the clinical history is far more conclusive, and, if I may make a suggestion, I would propose that the slides be sent to some second authority and his opinion obtained upon the point. It is extremely rare to find primary chorio-epithelioma in situations other than where a normal ovum may be engrafted, namely, in the tube or in the uterus. In Dr. Lockhart's case the woman was 47, and her last pregnancy was three and a half years before the appearance of the tumour. She developed this tumour in her vagina. And here I should like to ask whether the tumour in the vagina was of sufficient importance to account for the patient's failing in general health; it strikes me as being not quite sufficient to account for this. Was there any other complication? The period of onset, then, is the first thing, which makes this case somewhat unusual, though, of course, it makes it all the more interesting. Then the fact that the primary site was in the vagina, is yet another interesting point. The burden of proof in this case rests with the microscopical appearances, and comparing these with the other cases I have seen, the likeness is not at all striking. Rather does the tumour fall under the head of the atypical variety, as described by Marchand and Ludwig Pick.

The specimen mentioned by Dr. McCrae I saw, and to my mind it

looked certainly a chorio-epithelioma, both in its microscopical and macroscopical appearance, and, with the after history to bear out such a diagnosis, the case is, in my opinion, rendered conclusive.

F. A. L. LOCKHART, M.D.: I think that, judging from what Dr. Gardner has said, there can be very little doubt that the case which he cited was one of chorio-epithelioma. After the publication of Sänger's paper many cases of this disease, which had been previously diagnosed as ordinary carcinoma, were unearthed, the earliest having been seen in 1844. The chief clinical point of importance is the severe and uncontrollable hæmorrhage which is present. As to Dr. Howitt's case, which Dr. McCrae has cited, I wrote to him some time ago asking where it had been published, as I had understood that it had been reported at the meeting of the Canadian Medical Association last August. He replied that the case which he had reported at the meeting was entirely different; he said nothing about a case of Chorio-epithelioma, and, therefore, it is probable that it has not yet been recorded, in which event mine is the first case to be reported in Canada. With regard to the clinical history of my own case, it certainly is fairly typical, and the lapse of time which had occurred between the last pregnancy and the appearance of the symptoms of disease, which Dr. Chipman has emphasized as being an important point against the correctness of the diagnosis of the case, has been exceeded in several undoubted cases. McCann reported a case where the disease appeared nine years after the last pregnancy, and others have been observed with intervals of six and three years, so that the interval of three and a half years is not excessive. As to the exception that the site was not typical, I shall state that one observer has collected at least 17 cases where the original growth was situated in the vagina. The microscopical appearance of the growth could scarcely be more typical. One can see the syncytial masses and quantities of the cells of Langhans, and the tumour growth presents a villous appearance. The presence of syncytial masses alone, especially when outside of the placental site, is enough to found one's diagnosis upon.

J. G. ADAMI, M.D.—From the characteristic history of these two cases alone we must, I think, conclude without hesitation, that both Dr. Lockhart's case and Dr. McCrae's are examples of chorio-epithelioma, and further study of the histological appearance must convince us that this is so. I have, however, to confess that at first when Dr. McCrae showed me sections from his case I was somewhat doubtful. I had been looking out for and hoping to obtain a specimen of this condition for ten years or more, and from the bearing that this form of tumour

has upon a theory of tumour formation had familiarized myself with the descriptions and illustrations of the leading cases. It is, however, curious how, when we owe our knowledge of the subject purely to descriptions and illustrations, we are apt to obtain preconceived notions. Dr. Chipman, who has seen and studied other specimens, was, as he told us, of opinion that Dr. McCrae's sections were typical and those of Dr. Lockhart's atypical. My own opinion, when first I studied these two sets of specimens, was exactly the reverse, and I imagine that it was my doubts, if not my suggestion, that led Dr. McCrae to send his sections to Professor Welch with the results he has reported. I am wholly satisfied to accept Professor Welch's opinion, and we may congratulate ourselves that here before our Society we have had communicated this evening what are probably the first two cases of the condition that have been reported in Canada.

E. W. ARCHIBALD, M.D.—Several years ago I had the opportunity of studying the microscopical sections of a case of chorio-epithelioma in Aschoff's laboratory. Upon the basis of that experience, and judging purely from the histological appearance of the sections brought before us by Dr. Gillies, I would say that there remains but little doubt in my mind as to the fact of the growth being a syncytioma malignum. Apart from the positive evidence adduced by Dr. Gillies, which I need not recapitulate, the strong point, to my mind, in favour of the diagnosis of chorio-epithelioma lies on the negative side. That is, I know of no tumour, other than chorio-epithelioma, arising in the vaginal or perivaginal tissue, which could give the histological picture of these sections. They may not duplicate a text-book illustration, but they certainly resemble the growth mentioned a great deal more than any other with which I am acquainted.

CHRONIC HUMAN GLANDERS.

JAMES BELL, M.D., J. G. ADAMI, M.D., and G. D. ROBINS, M.D.—Chronic Human Glanders (with Pathological specimen). Dr. Robins read a paper on this subject, and Dr. Bell gave the case report.

DR. BELL.—This patient, as stated by Dr. Robins, came under my care in the Royal Victoria Hospital, on the 28th May, 1901. He was discharged, in fairly good condition, on the 21st of September, following; re-admitted on the 24th February, 1902, and died September 1st, 1902, a little more than fifteen months from the time when I first saw him.

When he first came to the Hospital he had slight fever, glycosuria, three scars, with sinuses on the lower extremities, one or two on the neck, and one just above the glabella on the forehead. These had all been apparently skin and cellular lesions, and, after curettage, all healed

satisfactorily. He complained of headache, and had been complaining for some months, and on June 20th a nodule appeared in the middle line over the occipital bone. On the 7th of July a nodule developed over the head of the left fibula. On the 23rd of July, both these abscesses, from the head of the fibula and over the occipital, were opened without an anæsthetic, and from the occipital abscess about two ounces of thick pinkish pus escaped, and an opening was found in the bone as large as a twenty-five cent piece, with soft granulomatous material between the bone and the dura. The abscess over the head of the fibula was found to be smaller and to contain a small quantity of pus only. On the 1st of September a lymph gland was found enlarged at the root of the neck, just internal to the sterno-mastoid. This was incised and curetted, and by the 21st it had healed, and the patient was discharged in fairly good condition.

On the 24th of February, 1902, he returned with a gland in the left posterior triangle of the neck, as large as a hen's egg, which had been noticed for five weeks and had been increasing gradually. It was painless and moveable. The occipital sinus continued to discharge, and some of the old scars had reopened. On the 27th, the gland was removed and found to be suppurating. The occipital wound was curetted and again a large quantity of granulosomatous material removed, which, from its appearance, created a suspicion that it might be brain substance; although, I believed, that the lesion was external to the dura, as was subsequently demonstrated at the autopsy.

More lymph glands became infected and were removed from time to time. His general health failed, painless enlargement of the liver developed, and he died comatose on the 1st of September, 1902.

As Dr. Robins has already narrated, the glanders bacillus had been frequently found in nearly, if not all, the local lesions, and repeated inoculation tests had demonstrated the correctness of the diagnosis. The general clinical picture, however, was that of a man with a chronic pyæmia, or multiple superficial tubercular lesions; or, perhaps, tertiary syphilitic lesions.

He was cheerful, and did not suffer except from headache, which, I believe, was due to the occipital lesion which seemed to have its origin within the skull, but external to the dura mater. It will be noted that the very first local lesion observed, was in the skin of the forehead, and that there never was, at any time, any evidence of lesion of the mucous membrane of the nose, or respiratory passages, or elsewhere; and that the next series of lesions was in the cellular tissues of the extremities. Then came the occipital lesion, which was probably primarily a bone

lesion, and later came a series of lymph gland lesions, and finally, the liver lesions.

The infection, therefore, was apparently at first disseminated through the blood channels and later along the lymph vessels; and, finally, to the liver, presumably through the general circulation.

J. G. ADAMI, M.D.—It is not a little interesting in following Dr. Robins's admirable study of this case, to note how this form of infective granuloma resembles the other forms in so many particulars, to see the likeness in clinical manifestations, and the further likeness which shows itself certainly as regards tuberculosis and the ray fungus in the character of the causative organisms. They all—the glanders bacillus, the tubercle bacillus and the actinomyces—belong to the group of higher bacteria, which have a tendency to branch. In this connection it is interesting to note the relationship stated between the diphtheria and glanders bacillus with regard to agglutination tests, for the bacillus diphtheriæ appears also to be allied to this same group of potentially travelling bacteria. Attention may be called to the character of the exudate or fluid of the glanders masses in man, for this same glairy fluid, which is not a true pus, is characteristic of the glanders and farcy tumours in horses, and in them has been spoken of as "farcy oil."

While Dr. Robins is now with us in Montreal, it is worthy of note that this remarkable and thorough study of an individual case was made while he was a country practitioner. Would that more country practitioners contributed to us studies of a like nature!

The sixteenth regular meeting of the Society was held Friday, May 19th, Dr. J. A. Macdonald, president, in the chair.

MIXED TUMOUR OF THE JAW.

DONALD A. HINGSTON, M.D., presented for Dr. Marien of the Hôtel-Dieu, a living case from which a mixed tumour of the upper jaw had been removed, and also exhibited the pathological specimen and photographs of the patient before operation.

The report of this case appears on p. 490 of this number.

JAMES BELL, M.D.—I saw this patient before operation, and it certainly was the most remarkable face tumour I had ever seen. Dr. Marien is to be congratulated upon the successful result of the operation. We, of course, all felt at the time that the case was operable and that the tumour was non-malignant, though of course it was a very big undertaking. If now something is done in the way of a plastic operation, the result ought to be very good indeed. The Society is greatly indebted to Dr. Hingston for his very clear presentation of the case.

FRANCIS J. SHEPHERD, M.D.—I also saw this patient before operation, and looked upon the case as being a curiosity in surgery, and as a most remarkable tumour. I have never seen one like it. Of course, long ago, when all kinds of tumours were allowed to go on for a long time before anything was done, such enormous growths were more common, and in some of the old surgical works one frequently meets with pictures much as this man has presented. We all congratulate Dr. Marien on the success of his operation, and on his having such a good expositor in Dr. Hingston.

FIBROIDS OF THE UTERUS.

A. LAPHORN SMITH, M.D., exhibited four fibroids of uterus which he had removed when they were yet small, and brought them before the Society as an illustration of the change of opinion in the profession as to the time for their removal. Formerly the rule was to allow such tumours to go on until they were of enormous size, some weighing up to 70 lbs. Now, it is pretty well agreed that a fibroid tumour should be removed just as soon as diagnosed, and so save the patient a life of invalidism. For there is to be taken into account the reflex sympathetic disturbances, as well as pressure on the bowels, bladder and ureters, and when there is hæmorrhage, the alteration in the blood and the weakening of the heart muscle, with dilatation and murmurs, which all disappear after the tumour has been removed. Another advantage is to the operator himself, as the removal of the tumour while small is exceedingly easy, and there is practically no death rate; some operators have had 100 cases without a death. A few years ago the death rate was reported as high as 5 per cent. Dr. Smith had operated on 22 without a death, while in 43 cases only one death occurred. The patients from whom the specimens shown had been removed all made good recoveries. In the largest one of the specimens there were two pus sacs, one of which contained more than a quart of foul smelling pus, and the other nearly a pint, thus illustrating another danger of waiting too long. He had seen several large fibroids suddenly become malignant.

CARCINOMA OF THE RECTUM—RECTO-VESICAL FISTULA.

J. ALEX. HUTCHISON, M.D., and W. G. RICKER, M.D.—The patient was a male, admitted to the General Hospital, February 1st, complaining of sharp pain in the left groin on passage of fæces, and of muddy coloured urine. He had several distinct attacks of pain during a period of three weeks, the last on the day of admission. The pain was of a peculiar bearing-down character, high up in the groin, and apparently referred to a very deep region. The urinary history was that during each of these attacks of pain the urine had been muddy, particularly

the last portion passed, and that the odour was distinctly foul and faecal. Some doubt was thrown upon the patient's story, as the examination gave an impression different from what the clinical history would lead one to believe. On admission, it was shown that he was somewhat wasted and quite anæmic; the chest was negative. The abdomen was flat in the lower left quadrant, and on very deep palpation one felt a certain amount of resistance; there was no distinct tenderness; no mass could be felt and no area of dulness over that region. A cystoscopic examination was performed, but on account of the very muddy contents of the bladder it was unsatisfactory.

The cause of death in this case is particularly interesting. The cystoscopic examination was performed at three o'clock in the afternoon by Dr. Hutchison. Previously the patient had had a saline purgative, and the bowels moved freely, and he had had urinary antiseptics for some days. At twenty minutes to eight that same evening the patient passed urine with a considerable amount of pain, and half an hour later there was a distinct chill. The temperature rose to 106° , followed by profuse sweating, and 13 hours from onset of chill the patient died, the temperature never falling below 104° . The post-mortem showed a carcinoma of the rectum, which had ulcerated into the bladder, forming a recto-vesical fistula, corroborating the patient's story of the passing of muddy urine, which had a faecal odour.

In this connexion another very interesting case was worthy of mention, also a case of Dr. Hutchison's. The patient had been operated on for vesical calculus, a suprapubic incision being made, and suprapubic drainage established; the bladder had been infected previously. Ten days after operation the drainage tube was removed, and on the seventeenth day the wound had so closed that urine was passed by the patient through the urethra for the first time. About one hour after this the patient had a chill; the temperature rose to 103° , and remained high for two hours, reaching normal at the end of six hours.

The first case was distinctly one of urethral fever, and the second is of interest in that the fever and chill followed such a very slight irritation, viz., the passing of urine through the urethra.

Many consider this to be of infectious origin, though strong objections can be brought against this view. We know of no other serous or mucous surface which reacts to such slight infection, though in certain conditions of the throat symptoms may be very severe, fever high and the physical appearances not in proportion. On the other hand, if it is to be looked upon as of nervous irritation, objections may also be made. Ziegler, in his last edition of general pathology, cites urethral

fever along with the irritative stages of general paresis, with certain attacks of epilepsy and cases of fright as being examples principally of rise of temperature, following irritation of the central nervous system.

F. J. SHEPHERD, M.D.—The notable point in this case is that the patient died of urethral fever, and not from the cancer. This is a very interesting condition of affairs, and even the simple operation of dilating a stricture has brought on such a state. As to the question of cause, I have no doubt that it is due to sepsis, as urethral fever never comes on till after urine has been passed. There must be some abrasion in the urethra which makes it susceptible to this urine, which no doubt contains micro-organisms, and so acts as an irritant. In many of these cases, fever after the passing of the instrument will be prevented by the use of antiseptics, opium, for instance, and large doses of quinine will prevent urethral fever. I have shown this quite often. After having passed the instrument in a case, there would be later a temperature as high as 105°. Before again passing the sound, the patient would be given a large dose of quinine, when no fever whatever would result after passage of a sound. In this case the urine must have been very septic with such a fistula into the rectum, and it is easy to see that the result of the passage of such infected urine would be grave.

JAMES BELL, M.D.—I do not think that there is the slightest doubt but that the cause of urethral fever is a toxæmia. It always follows a certain combination of circumstances—the passage of an instrument into the deep urethra, and the passage of urine later, presumably therefore the lodgment of blood and urine in contact with the wound. It is a very interesting fact that an open perineal wound with the urine draining out freely is never followed by urethral fever, nor is a lesion of the penile urethra. The presence of blood and urine lying for a short time in contact would seem to be essential to the production of urethral fever. The nervous theory is quite untenable.

ENORMOUS DISTENSION OF COMMON AND HEPATIC DUCTS WITH FACETTED STONES.

JAMES BELL, M.D.—The following is the history of this rather interesting case, the unusual features of which are the enormous mass collectively of stones from the common and hepatic ducts, and that there was absolutely no jaundice at any time. The history is also suggestive. There was first of all the so-called sick headache, then the aching pains between the shoulders; two acute attacks, then nine weeks of distress, then a bad attack and then relief; next a period of three months of comparative ease, then a very bad attack lasting for two days, at the end of which the patient passed 30 faceted stones, and had comparative free-

dom, till six weeks ago, when she had a couple of mild attacks, and now the removal of these 50 odd stones from the common and hepatic ducts and gall bladder.

The patient was a healthy looking, well nourished woman, aged 34, mother of four children, and was admitted to the Royal Victoria Hospital about the 5th May, 1905.

Her history was briefly as follows:—She had suffered all her life from periodical attacks of vomiting and headache, but never had any pain in the abdomen. In January, 1904, she began to have an aching pain in the region of the gall bladder, which radiated up between the shoulders. At the end of a week she had a severe attack of biliary colic, which lasted about three hours, accompanied by chills and vomiting, and was relieved by morphia. At the end of a week she was fairly well, but a week later had another attack similar in character. For nine weeks then she suffered from distress in the upper zone of the abdomen, which incapacitated her for work, and was accompanied by mild attacks of pain. Then another severe attack of biliary colic, accompanied by chills and vomiting, which lasted for several hours, kept her in bed for a few days.

From that time until July, 1904, she was fairly well, with but a few mild attacks of pain. She then had a very severe attack; the pain lasted intermittently for two days, and ceased when she had passed thirty faceted gall stones. From this time until February, 1905, she had, on an average, one attack a month, but no chills. From February to April 21st, 1905, she did not have any attack, then she was seized in the evening, with a severe pain in the same region, which was accompanied by vomiting, and, although she took morphia, she was not relieved until the following morning, and was unable to leave her bed for five days. On the 30th she had a slight attack of pain, but no vomiting.

She never had any jaundice. On cross-examination she admits, at the most, that with the first bad attack, her skin may have been discoloured, but it did not occur to her or to any one who saw her that she was suffering from jaundice.

On the 8th of May she was operated upon. The gall bladder was found thick-walled and cord-like, containing a number of stones, and adherent to the omentum and neighboring structures. On separating the adhesions, the common duct was found much larger than usual, apparently about three-quarters of an inch in diameter, and filled with stones which could be moved upon one another, and extended back in a single line up in the hepatic duct. Gentle pressure was exercised in an attempt

to force them all into the duodenum, but without success. The common duct was incised, and forty-four faceted stones, measuring on an average, perhaps, a quarter of an inch in diameter, were removed from it and from the hepatic duct. The gall bladder was incised and 12 faceted stones removed, after an unsuccessful attempt had been made to force the stones into the common duct. The cystic duct was dilated to about the same capacity as a gall bladder, and was separated from the common duct only by a small ring-like opening, through which a director could be passed into the common duct and on into the duodenum. The gall bladder was removed and the common duct sutured.

During all this past winter, the patient had complained of some pain and tenderness in the appendix region, and a diagnosis of appendicitis had been made. The caecum and appendix were therefore withdrawn and examined, and a concretion was found in the appendix, and evidence of some chronic inflammation, so that the appendix was removed. The concretion was examined with the idea that it might possibly be a gall stone, but it was found to be simply a faecal concretion. A drainage tube was carried out in the upper angle of the wound from alongside the common duct, and left there for several days, but there has been no evidence of leakage from the incised duct, and the patient has made excellent progress, and is practically well.

F. H. ENGLAND, M.D.—I would like to ask Dr. Bell whether he sutured the common duct, or whether he used the drainage tube, and packed above it; and whether he found any difficulty in bringing the stones down into the common duct. In my own limited work I have sometimes had great difficulty in moving the stones along.

F. J. SHEPHERD, M.D.—I think this case is most interesting on account of there being no jaundice. Speaking of appendicitis and cholecystitis, I might mention that I operated lately in a case where there was a tumour in the region of the appendix. There was great tenderness, rigidity, and the patient had a temperature of 103°, rapid pulse, 140°, and a history of repeated attacks. I cut down and found a hugely distended gall bladder, cut into it and removed about 30 or 40 stones and an immense amount of glairy mucus. I did not remove the gall bladder in this case, for the condition of the patient did not warrant it. She was a woman of 55, and recovered well. In Dr. Bell's case there was some evidence of appendicitis, in mine the appendix was practically normal, so far as could be made out.

JAMES BELL, M.D.—The incision in the common duct was sutured. I always do this, as it seems to me to be better than to allow large quantities of (possibly) infected bile to drain off. There is always even then

the possibility of a leakage. There was not the slightest difficulty in removing the stones. Removal was quite easy. The dilatation of the duct must have taken place during the nine weeks of distress mentioned in the history; and then, three months later, in an attack of colic, apparently the duct was so overfilled that 30 stones were forced through into the duodenum; but why the remaining stones could not have been forced through I cannot understand. However, after what I considered was a fair and sufficient effort in this direction, I was obliged to incise the duct.

The seventeenth regular meeting of the Society was held Friday evening, June 2nd, Dr. J. A. Macdonald, president in the chair.

HYPERNEPHROMA OF KIDNEY.

F. J. SHEPHERD, M.D., and B. D. GILLIES, M.D.—In presenting this specimen, Dr. Shepherd gave the following clinical history:—The patient, a labourer, aged 61, first complained of shortness of breath coming on about the middle of March, then, later in April, pain in left side of back and frequency of micturition. He had had chronic bronchitis for years; the family history was good. There was an almost constant soreness, with occasional attacks of severe aching pain, generally lasting about an hour. The frequency of micturition began about the middle of April; had to get up twice during the night. Before an attack of pain there was a desire to micturate but inability to do so, though urine was passed freely after the attack. After last attack there was some nausea and vomiting. The urine was alkaline, clear, 1,005, contained albumin, granular and hyaline casts, triple phosphates.

On examination a tumour was found in the left side in the region of the kidney, quite moveable and slightly tender to pressure. I cut down and found a large tumour. I removed the whole mass, tumour and kidney, and the patient is perfectly well at present. The operation was performed by lumbar incision. A little aggravation of his bronchitis occurred owing to the ether. The symptoms are peculiar, as there was never any hæmorrhage.

B. D. GILLIES, M.D.—The tumour lies at the lower pole of the kidney, and is about the size of an orange, somewhat lobulated in character and lying immediately beneath the cortex, as these tumours practically always do. The other whitish masses on the kidney are cysts; their white appearance is from the action of formalin. The tumour itself presents at its centre a large cyst, which I take to be originally hæmorrhagic. The tumour shows a yellowish mottled appearance interspersed with reddish areas. On cutting the tumour one comes across

gritty calcareous particles in places. Evidently the tumour is of long standing, and probably has increased in size only recently. The microscopic sections show the typical appearance of a Grawitz tumour. There are the large clear cells arranged in columns, and surrounded by a stroma. On staining with Sudan III., the cells are stained completely. The nuclei in these cells lie to one side, and we have definitely the structure of a Grawitz tumour, and the nature of the cells reminds one at once of those seen in the cortex of the adrenal gland.

J. G. ADAMI, M.D.—I am interested very specially in the fat staining of these cells. It is an interesting point that Dr. Gillies here brings forward, namely, the typical fat cells, which are at the same time clearly the lining cells of the alveoli of the tumour. This goes to prove that Dr. Bell's case, shown here some time ago, was definitely a hypernephromatous tumour.

JAMES BELL, M.D.—The interesting feature about this tumour is the large cyst in the centre. It may be remembered that when we discussed these tumours before, I suggested that some of these old cysts which we called chronic hydronephrosis, although we could not find any obstruction of the ureter and the contents did not have the character of urine, were probably degenerated from this form of tumour. With regard to the symptoms of hæmorrhage, I think that means the beginning of degeneracy and malignancy. During the pre-malignant stage, there is not likely to be hæmorrhage, while it lasts. This tumour is probably of very long standing, and has begun only recently to take on new growth. All this, together with the cyst in the centre, seems to me to be suggestive of the change that I mentioned on a previous occasion. A tumour of long standing which had never become malignant degenerates in the centre and forms a cyst, which would in time obliterate the whole kidney, and form a large sac of fluid, which, on examination, would probably show none of the characters of urine. It is remarkable how some cases run in groups; this is the third which has been presented here within a very short time.

JOHN MCCRAE, M.B.—“Some Interesting Autopsy Findings.”

D. A. SHIRRES, M.D.—“A Plea for the Neurasthenic.”

GEO. E. ARMSTRONG, M.D.—I am very strongly of the opinion that most of these cases are not recognized, and they turn from the doctor's office to one of these sanitariums where, often with massage, rest or feeding, they are brought around to a comparatively normal condition again. I believe it is the inability to recognize this as a distinct condition, which must be treated, that has led to so many of these sects of healers springing up. They do, very often, get to the bottom of the matter in these cases, and so are able to treat and overcome them.

J. PERRIGO, M.D.—With regard to isolation, it is a most difficult thing to do, especially in the home. Then the obtaining of a nurse in whom the patient can have confidence is another matter, and not one, but many nurses, should be tried until one is found suitable to the patient. We are all apt to slur these cases over, and the title of the paper to-night, "A Plea for the Neurasthenic," is the best that could be given.

D. A. SHIRRES, M.D.—It is absolutely impossible to isolate in private dwellings; and even in hospitals it is often hard to accomplish it. Functional diseases are congenital; people are born that way, and the etiology of such a condition is pure physical exhaustion. As regards medicine, it is of very little avail; only absolute rest, careful dietry, massage, and keeping away all disturbing influences.

Diphtheria in 1890 proved fatal in full 40 per cent. of cases. In a family of eight children attacked by the malady from three to five were certain to die. Since then I have seen epidemics in which children were attacked by undoubted diphtheria, proved to be such by subsequent palsies without one death, and this, too, in the absence of special treatment. I have knowledge of one case which was deemed miraculous when it happened. A woman aged 95 years slowly and painlessly became blind, I presume from cataract. Having occasion to arouse her neighbours one night, in attempting to do so she fell against the sharp pointed forge-made latch of a door. It penetrated the eye, but some days later the poor woman who thought her eye utterly lost was overjoyed to find her sight in great measure restored. The lens was accidentally extruded. Some years ago a man presented himself to me for advice with respect to an ulcerated cornea. The eye was so badly damaged that I advised its removal. This was declined, and some days later a member of the family wrote enclosing a lump which came out of the father's eye. It was the lens which had escaped through a large opening in the cornea.—Dr. C. P. Bissete in *Maritime Medical News*.

A report of the railway accidents in the United States during the months of October to December, 1904, has been compiled and published by the Inter-State Commerce Commission. During that period 63 passengers and 189 employees were killed and 1,430 passengers and 1,368 employees were injured—a total of 242 persons killed and 3,298 injured in railway accidents. Other accidents to passengers and employees, not the result of collisions or derailments, bring the total number of casualties up to 14,978—951 killed and 14,027 injured.