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GLANDERS IN CANADA.

BY

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It is the purpose of this communication to explain how glanders, an exceedingly common disease among horses, is being dealt with in Canada, and to show by the brief relation of several human cases that, although in this country glanders in man is, without doubt, relatively rare, it is, nevertheless, sufficiently common to deserve more attention than it has received in the past, when attempting to diagnose obscure suppurative and granulomatous conditions. The connexion of the first part of our subject with the human disease will be clear when it is remembered that the great majority of cases of human glanders—at least ten of the eleven Canadian cases hereunder included—are directly traceable to a diseased horse; so that the stamping out of glanders among horses would mean its practically complete extinction as a human disease.

Equine glanders was probably introduced into Canada by the army horses brought over from England and France in the 18th century. The circumstances connected with the human cases reported by Dr. Smallwood and Dr. Richardson warrant the statement that the disease was well known and widespread among horses in Quebec and Ontario in the forties of last century, though for this period no reliable veterinary evidence is obtainable. There is little or no evidence that equine glanders has ever been prevalent in the Eastern Provinces, but in view of the unexpected number of cases of glanders recently discovered in some other parts of the Dominion previously supposed to be comparatively free from glanders, it is quite possible that the Maritime Provinces may not be absolutely free from the disease. For over twenty years the Manitoba Government has had fairly efficient legislation designed to stamp out this disease, which has prevailed there ever since the Province was settled. About one hundred cases of equine glanders were

dealt with in Manitoba yearly for several years. This number had fallen to fifty in 1902. But it is to be remembered that it was the custom of the Manitoba Government to rely mainly on clinical appearances for a diagnosis of glanders and that contact animals, which very commonly have the disease in a latent form, were rarely tested with mallein. The unsatisfactory nature of the results obtained by such a policy is clearly shown by the fact that from the time the Dominion Government took over the work, in February, 1905, up to March 31st, 1906, employing mallein as a means of diagnosis in contact animals as well as clinical suspects, no less than 871 horses were slaughtered for glanders in this Province.

In the Northwest Territories glanders has been traced back as far as horses purchased for use on the trip made in 1882 by the Marquis of Lorne. In 1885 Dr. J. G. Rutherford, the present Veterinary Director-General for Canada, came across and destroyed a large number of native glandered horses in the Northwest Territories. Unfortunately the Dominion Government of that time failed to act upon Dr. Rutherford's report on these facts and for years glanders was allowed to spread unchecked in the Territories, which in turn served as a distributing source of the disease to other parts of the Dominion. From 1898 to 1902 inclusive about one hundred cases of glanders were dealt with yearly in the Territories, of which cases the Regina district furnished half. Elsewhere in the Dominion, previous to 1902, glanders was dealt with in a very half-hearted way. In that year the control of veterinary matters generally all over the Dominion, except in Manitoba, was taken over by the Dominion Government, and under Dr. Rutherford's direction a vigorous campaign was begun against glanders and other infective diseases of animals.

The method adopted in 1902 by Dr. Rutherford in dealing with glanders was as follows:—A veterinary officer of the Department was sent at once to investigate each outbreak of glanders reported. His instructions were to destroy without compensation all animals clinically glandered, first testing them with mallein\* if there were any possible doubt as to the diagnosis. All horses that had been in contact with glandered animals were also tested with mallein. If these contact animals reacted, but showed no clinical signs, the owner was forbidden to sell or otherwise dispose of them, he was forbidden to stable them elsewhere than on the premises they were on, and was obliged to keep them isolated from non-reactors and to have them always available for Gov-

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\* Mallein is analogous to tuberculin. A few hours after its injection hypodermically, a glandered animal develops a considerable inflammatory swelling at the point of injection (local reaction), transient febrile disturbance (febrile reaction) and constitutional symptoms (general reaction). Very little disturbance follows the injection of mallein in a non-glandered horse.

ernment inspection. One hoof was branded 'E. R.' to identify such animals, and the branded hoof had to be preserved if the animal died. Such horses (latent reactors) were retested with mallein 40 days after the first test and if they still reacted, again 60 days later. Horses which ceased to react under this repeated testing were released from all restrictions, save that their sale was still forbidden and that they were required to be kept available for Government inspection. If an animal still reacted at the third test, an attempt was made to gain the owner's consent to its destruction. If he refused, a final test was made 90 days after the third, and if there was still a reaction, the animal was killed. Of course all latent reactors which at any time developed clinical signs of glanders were at once destroyed.

Expensive and irksome as was this system of repeatedly testing latent reactors, it seemed the fairest that could be adopted under a system of non-compensation, and it may be added that this method of dealing with glanders was more advanced than that of any other country when it was adopted in Canada. A British Departmental Committee, appointed to discover whether latent reactors could communicate glanders to healthy horses, had decided that the danger of infection from latent reactors, even when allowed to mingle with other horses in the freest possible manner, was but slight. Under such a system of isolation as that described, the danger might reasonably be expected to prove nil. And to insist upon the destruction of apparently healthy animals without any compensation was obviously unjust. For these reasons the system described was continued in force for about two years. In this period, of 900 horses retested not quite 25 percent. had become ceased reactors. There was always the chance too that latent reactors, which seem particularly liable to have the disease in an acute form, might develop clinical symptoms, and spread the disease in the considerable intervals between the inspector's visits. In so extensive a country as Canada the expense of this retesting was enormous, as the distances to be travelled were so great. All in all, from an economic standpoint the results obtained did not justify the expense incurred. But an even more important reason for remodelling the system was found, thanks to Dr. Rutherford's policy of keeping track of all ceased reactors in the country. Outbreaks of glanders were occasionally found in which the disease was directly traceable to a ceased reactor—a possibility that had apparently never been found out before this. In four out of five ceased reactors living glanders bacilli were demonstrated in the lesions found at autopsy by Dr. C. H. Higgins, Government bacteriologist.\* It was thus clear that not only

\* For much valuable information regarding ceased reactors, see Special Report on Glanders, by J. G. Rutherford, Veterinary Director-General, Department of Agriculture, Canada, September, 1906.

was the system that had been adopted under stress of existing circumstances a very expensive one and one that finally saved a relatively small number of the horses dealt with, but even the small proportion of horses so saved might become a source of danger to other animals.

Accordingly, in 1904 the Canadian Government decided to pay to owners two-thirds of the value of all horses that reacted to mallein, provided that the animals were destroyed at once. Such a method is radical and at the same time fair to the owner, and it is believed that no other country anywhere has adopted an equally advanced policy in dealing with this disease; but it is necessary to point out one flaw in this otherwise ideal system. There is a clause giving any owner of latent reactors who strongly objects to the destruction of such animals the option of quarantining them for retesting, provided that he forfeits all claim to subsequent compensation by doing so. The retests are limited to two, and all animals still reacting are killed immediately after the third test, without compensation; but if the animal retested ceases to react, it is released, subject to the conditions previously specified. No doubt the forfeiture of claim to compensation will prevent most owners from choosing the retest, and the great majority of animals held for retest are eventually destroyed; but in the 17 months ending March 31st, 1906, 174 horses retested had become ceased reactors, and it is to be feared that the presence of these ceased reactors among other horses may be the source of fresh outbreaks of the disease, as indeed has occurred in the past. The elimination of this one objectionable clause would add little to the total expense incurred by the Government, and although the expenditure for compensation will be very heavy for some years, there is no doubt that, energetically carried out, this policy will be the most economical eventually. Its efficacy in bringing to light cases of glanders that would otherwise have been concealed is shown by the fact that during the 22 months ending August 31st, 1906, 4,446 horses were destroyed for glanders, or more than six times as many as had been dealt with in any similar previous period. Of this number, 1,995 were clinically glandered. That is to say, more than twice as many clinical cases have been brought to light, since the adoption of a policy of compensation, as in any similar previous period. The amount paid in compensation for these horses by the Department was over \$300,000, but this amount is small indeed when compared with the sums which other countries have had to pay in stamping out contagious disease among animals. For example, Great Britain paid during the years 1865-68 \$5,500,000 compensation for rinderpest among cattle.

The figures obtainable\* show that glanders is now most prevalent in the Provinces of Manitoba, Saskatchewan and British Columbia. In Saskatchewan the Regina and Moose Jaw districts, with the regions east and south of this, are chiefly affected, and in British Columbia the Okanagan Valley and the Pacific Coast to a less extent. In Ontario the districts around Ottawa and Perth, and the Rainy River District, adjoining Manitoba, are the regions most affected, while in Quebec the disease seems most prevalent in the Saguenay and Chicoutimi Districts. 20 horses were destroyed for glanders in Montreal during the 17 months covered by this report. A tabular statement of the glandered horses destroyed in different years in the various parts of the Dominion will bring this portion of our subject to a close. \*It is impossible, however, to conclude without an acknowledgment on the part of the writer of his indebtedness to Dr. J. G. Rutherford, Veterinary Director-General, for most valuable information. To Dr. Rutherford is due the inauguration in Canada of the most radical and most advanced method of dealing with glanders in vogue in any country, and it is most satisfactory to find that both Great Britain and the United States are awakening to the necessity of following the lead of this country by adopting similar methods in dealing with this insidious and dangerous equine disease.

Very little that is general can be said regarding human glanders in Canada. After a somewhat industrious search of the literature, the writer was able to find only four Canadian cases on record, prior to the publication of our own case. Yet indications are not wanting to show that human glanders in Canada is by no means so rare as the foregoing statement would lead one to suppose. Dr. Smallwood, a country practitioner of Isle Jésus, near Montreal, was able to diagnose the second case of glanders reported on this continent, even before the appearance of the characteristic pustular rash. Another case that occurred near Toronto in 1848, apparently the fourth in the Western Hemisphere, was only published from Dr. Richardson's note-book in 1904. Dr. John Reddy's Montreal case, published in 1876, was apparently the next Canadian case reported. Dr. Reddy found, however, on searching through the mortality records for Montreal that three cases of glanders had occurred there during the preceding year, and Dr. F. J. Shepherd informs the writer that about this time an epidemic of human glanders, about a dozen cases in all, occurred in Montreal. Of these last cases the writer has not been able to get any account, but is enabled to add, by the courtesy of the Medical Board of the Montreal General Hospital, the

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\* Department of Agriculture, Canada. Report of the Veterinary-General, Nov. 1st, 1904, to March 31st, 1906, an advance copy of which was received through the kindness of Dr. Rutherford.

PROVINCE.	Previous to 1902.	Year ending Oct. 31, 1902.	Year ending Oct. 31, 1903.	Year ending Oct. 31, 1904.	Year ending Oct. 31, 1905.	5 months ending March 31, 1906*.
British Columbia .....	No figures.	No figures.	2	2	98	623
Northwest Territories .....	About 100 y'ly.	112	210	404	912	Sask. 230 Alta. 68
Yukon .....	No figures.	No figures.	Several cases.	3	9	1
Manitoba .....	About 100 y'ly.	50	60	No figures.	661	210
Ontario .....	No figures.	No figures.	60	35	81	114
Quebec .....	No figures save 4 in 1901.	No figures.	23	55	319	141
Maritime Provinces .....	No figures.	No figures.	None.	None.	None.	None.
Total for Dominion .....	No figures.	No figures.	373	Exclusive of Man. } 499	2,113	1,387

\* During the 5 months April 1 to Aug. 31, 1906, 916 additional horses were slaughtered for Glanders in Canada, but figures showing the localities in which these cases occurred are not yet available.

account of a case that occurred there in Dr. Wilkins' service in 1885. In 1889 O'Brien's case, the last Canadian case that had previously found its way into medical literature, was published.

It is evident, then, that human glanders in Canada was not in former years the rare disease that it is generally supposed to have been, and there is some evidence that even yet it is by no means very rare, for the writer has knowledge of at least four cases of glanders in man that have occurred in Canada during the last two or three years. Three of these were brought to his attention through the unfailing kindness of Dr. Rutherford, who set on foot among his inspectors inquiries which resulted in the discovery of these cases. The fourth case occurred a year ago at the Montreal General Hospital in the service of Dr. George E. Armstrong, and to Dr. Armstrong and the Medical Board of that Hospital I am indebted for permission to publish the case here. Dr. A. E. Vipond was also kind enough to give me his notes of a case that was probably glanders, but, as the case was somewhat atypical clinically and there was no definite history of previous contact with the disease, it has been thought best not to include this case here, though it presents points of unusual interest. It is likely that several cases of human glanders occur annually in Canada. Some of them are overlooked here, as they are in other parts of the world, owing to the relative rarity of the disease in man. It is no disgrace to the medical profession to admit that not improbably many Canadian human cases have gone unrecognized, seeing that expert bacteriologists with every modern means of investigation at their disposal have not infrequently experienced considerable difficulty in finding out the true nature of the disease. And from a clinical standpoint the difficulties in the way of making a definite diagnosis are often almost insuperable, particularly in the chronic form of the disease. Glanders is a disease the symptomatology of which is quite as varied as that of the other infective granulomata—tuberculosis, syphilis and leprosy. And the fact that not uncommonly the diseased man has not a single symptom in common with the horse from which he contracted the disease is apt to withdraw one's attention from what may be the only important clue to clinical diagnosis. To cite a concrete case, our own patient was ill for at least twenty months and, nevertheless, during all this period he did not manifest one symptom in common with his horses, some of which had been diseased for over three years before they were shot.

Limits of space forbid further discussion here. Those who are interested in the subject will find further details in the *Royal Victoria Hospital Studies*, Vol. II, No. 1. Chronic Glanders in Man. Enough, however, has been said to show that human glanders, though uncommon,



is much more frequent than most medical men have been wont to regard it, and it is hoped that, if in the past there has been any ground for the opinion prevalent among veterinarians that glanders—like other diseases of animals communicable to man—has been far too slightly regarded by the medical profession, there will in future be no reason for them to hold this opinion, as far as Canada is concerned.

Of the eleven Canadian cases, an abstract of which will be given in conclusion, four or possibly five were chronic; ten of the eleven cases died of the disease, and one (Armstrong's) is incomplete, its subsequent history being unknown. All the patients were adult males. In every case, save that of Wilkins, in which the source of the disease is not mentioned, the human malady was clearly traceable to glandered horses.

### CASES OF HUMAN GLANDERS IN CANADA.

SMALLWOOD. Isle Jésus. *British American Journal*, I, 1846, 201.—Farmer, aged 42, took ill on April 20th, 1844, with headache and pain in the back of the neck, worse on movement and severe enough to prevent sleep. When seen on April 22nd he had in addition slight swelling and redness of the right eyelid, the usual symptoms accompanying fever, and a pulse of 90. On April 24th his headache was better, but there was pain in the neck and limbs, the swelling of the eyelid had increased, and his throat was sore. The bowel movements had been free and offensive. On April 25th the right eye was completely closed by the inflammatory swelling, the patient was very restless and had a pulse of 100, deglutition was difficult, there was general pharyngitis, and the nasal and buccal secretions were increased. The breath was offensive, the tongue furred, the bowels loose, with dark and offensive movements.

Inquiry showed that a glandered horse of the patient's had snorted in his face while a drench was being administered two or three days before the onset of the illness. The man did not wash his face till some time after. About midnight of April 25th complaint was made of intense heat of the head, neck and throat, and dysphagia was increased. Both eyes were swollen, there was dyspnoea, the stools were dark, liquid and offensive, the pulse 110, and there was occasional delirium.

By 1 p.m. on April 26th the eyelids could not be opened on account of the livid swelling, the surface temperature had fallen, he was delirious and unable to swallow, the nasopharyngeal secretion was dark and viscid, the pulse 120 and small, and the motions, still offensive, were passed involuntarily. A number of pustules, the size of small-pox lesions, containing dark red fluid, had appeared that morning on the legs and body, with two similar lesions on the face. There was dyspnoea, muttering delirium and subsultus, and the skin was bathed in perspiration. By

8 a.m. on April 27th he could hardly be roused. The nasopharyngeal secretion was copious and very offensive. Death occurred at 6 a.m. on April 28th. No autopsy was permitted.

*Nolanda*:—The first case recorded in British North America, and apparently the second on this continent; definite diagnosis made by Dr. Smallwood even before the appearance of the pustular rash; period of incubation apparently two or three days.

RICHARDSON AND MORRISON. Near Toronto. *Canada Lancel*, XXX-VIII, 1904-05, 415.—Morrison had for some time been treating a man near the Don for intermittent fever, with quinine and pil. hydrarg. The patient had had rheumatic attacks in different parts of the body and one knee was inflamed. On April 3rd, 1848, as he was quite feverish and costive, he was given a purgative after being bled.

When seen by Dr. Richardson in consultation on April 10th, 1848, the facies was anxious, eyes congested, pulse rapid and weak, and there was profuse sweating. Breathing was noisy and accompanied by a mucus click, which disappeared when the mouth was open. There was also cough, with hurried, laboured breathing, the tongue was furred and the bowels costive. Several swellings like boils had appeared in the preceding 24 hours, one on the back of the left hand, one on the side of the nose and some on the arms. These were large, hard and purplish, with considerable redness surrounding, and one or two of them were suppurating. The left knee was swollen and red and just in front of it was the largest of all these lumps. There was great prostration and slight subsultus, but the mind was clear. The posterior fauces were congested and purplish. It was considered that the dyspnoea was partly, at least, due to trouble in the posterior nares. The next morning the patient was weaker, abundant thin mucus was oozing from his nose and he died. There was no autopsy.

Inquiry elicited that the patient had had several glandered horses for six months previous. An examination made at the time the patient was visited showed that three of the horses had nasal discharge and one, submaxillary enlargement. The man had been seen to drink from a pail after the horses and to wipe their noses with his handkerchief or his fingers.

*Nolanda*:—This, apparently the second case to occur in British North America, and the fourth on this continent, was not published till fifty years after its occurrence. The neighbours, when talking with Dr. Richardson about the man's horses, said that they had glanders, "and that is what he has too." Such a statement throws an important side light on the frequency of human glanders in this country in former times. This may have been a chronic case.

JOHN REDDY. Montreal. *Canadian Medical and Surgical Journal*, IV, 1876, 401.—On November 9th, four days after a trip by boat, lasting two days, an engineer began to have occasional uneasy, but not painful sensations about his body and limbs. He was first seen on Nov. 13th, the day after a severe chill had occurred, followed by sweating. He then had the usual febrile symptoms, a temperature of  $100\frac{2}{3}^{\circ}$ , shooting pains in all the extremities and the right scapula, and some dyspnoea, but no pulmonary signs. A diagnosis of probable incipient typhoid was then made, but after a severe rigor with profuse sweating on November 16th, the case was considered malarial.

On Nov. 15th there was headache, a temperature of  $99\frac{3}{4}^{\circ}$ , with pharyngeal congestion and soreness. On Nov. 19th a goose egg sized swelling, said to have appeared during the previous night, was found below the right clavicle. This swelling had nearly disappeared two days later, but the patient was very weak and continued to perspire profusely. On Nov. 24th a number of firm, filbert sized swellings were noticed on all the extremities, and a tumour larger than a goose egg was found in the suprascapular fossa. This latter subsided three days later. The urine was negative.

On Nov. 27th severe pains were present in the arms and legs, and pink streaks of lymphangitis were for the first time seen connecting the tumours. The prostration increased, notwithstanding energetic stimulation. On Nov. 30th a few dark erythematous patches were seen on the extremities. The temperature and pulse were running higher. On consultation with Dr. Ross no diagnosis was made, beyond a recognition of the septicæmic nature of the disease. On December 1st a number of vesicles were noticed on the arms and shoulders. These contained thin pus surrounded by lymph-like fluid on a pinkish base, and appeared in scanty successive crops, evolving in four or five hours. On December 2nd there was a pustular rash on the face and a large chaneroidal pustule near the right ala nasi.

The patient now volunteered the statement that on his passage up to Montreal he had had to see to a number of horses, ten of which had an offensive nasal discharge, two of them dying on the way. The diagnosis of glanders was now clear.

On December 3rd the urine contained albumin and probably blood, but no casts. Signs of right-sided pneumonia and a coarse friction developed, a yellowish, foetid nasal discharge appeared, there was low muttering delirium, and death occurred on December 4th.

*Notanda*:—General symptoms four or five days after infection and ten days before local manifestations; the evanescence of some large lesions;

the comparatively late rash in small successive crops; the final definite nasal and pulmonary signs.

WILKINS. Montreal. *Montreal General Hospital Case Reports*, XIV, 49.—These notes are here abstracted by kind permission of the Medical Board of the Montreal General Hospital.

A previously healthy carter, aged 23, was admitted to the Hospital in the service of Dr. Wilkins on April 28th, 1885, complaining of dorsal and lumbar pain. This had developed on April 23rd, after sleeping in his wet clothes following a debauch. That evening he was chilly and had cold sweats. The pain extended and increased so that the patient was unable to work, though his appetite was fair.

On admission there was a fairly well limited area of tenderness over the lumbo-sacral articulation, also pain extending up and down the right femur, most marked over the trochanter. There was no inflammatory reaction over the affected parts. There were the usual symptoms accompanying fever and his temperature ranged from 100° to 102°. Chilly sensations and cold perspirations occurred nightly and there was herpes of the lips. Salicylate, given with some improvement on admission, were discontinued on May 2nd.

On May 5th there was scanty, transient, bloody discharge from the nose, and on May 6th the right and left ankles and right wrist were greatly swollen and inflamed. The temperature was now 103° to 104°, pulse 100, general condition fairly good. On May 8th the left wrist and both knees were greatly inflamed, pulse 110. A pustule was noticed over the left malar bone. On May 9th a blowing systolic murmur, transmitted to the right of the sternum, was heard at the aortic cartilage, but the præcordial pain previously present was diminishing. Another large pustule had developed on the upper lip. On May 11th there was muttering delirium with great prostration, the joints previously mentioned were greatly swollen and œdematous, and several of them, including the left wrist, fluctuating. There were deposits of fluid in the right leg anteriorly and numerous shot-like papules on the face, wrists, legs and body. These papules soon became pustular, and were depressed centrally and ulcerated, or else disappeared. A thick, gluey, bloody mucus blocked the left nostril. The pulse was 120, evening temperature 105°. On May 12th the temperature was 104°, pulse 130, respirations 30 and stertorous. The nostril was completely blocked, though nasal discharge had ceased. The facies was pinched, the tongue dry and brown. On the face an erysipelatous swelling was seen surrounding groups of pustules. The rash was most abundant on the face, legs, dorsum of the feet, arms, chest and back. A subsequent note states that the fluctuating deposits of pus had increased over the regions previously

mentioned and were most developed over the left leg and right thigh. Other joints were affected and had an erysipelatous appearance.

Prostration was extreme and there was stupor, though nourishment was still taken when put to the lips. Coarse tremor of the hands developed and the patient became comatose and died. At the autopsy by Dr. Finley, in addition to the farcy buds, there were nodules found in the lungs, though no pulmonary involvement was noticeable during life.

*Notanda*:—The vague rheumatic onset; involvement of large joints successively and transient nasal discharge two weeks later, followed by papulo-pustular, umbilicated rash appearing in successive crops, intramuscular foci, gluey nasal discharge, phlegmon of face and about joints; pulmonary involvement at autopsy in spite of the absence of clinical pulmonary signs.

ANONYMOUS MANITOBA CASE. Private communication. In 1885 a man who had had the care of his glandered horses had a series of subcutaneous and intramuscular abscesses. Nasal discharge was super-added and the patient died after three months illness.

This case was not diagnosed glanders, but the clinical history seems fairly clear.

O'BRIEN. Ottawa. *Montreal Medical Journal*, March 1889, 641.—A man, aged 37, previously healthy, was hurt on November 23rd, 1888, while attending sick horses. Since then he had very severe frontal headaches, general malaise and feverish symptoms. When first seen on November 27th, there was a temperature of 102°, pulse 100, and some lymphangitis along the inner sides of the legs, but no abrasion and no glandular enlargement. There was also an abscess in the right biceps which when incised on November 28th discharged an ounce of bloody pus. Insomnia was very troublesome and morphine gr. 1½ in six hours gave no relief and no sleep. By November 30th the lymphangitis had increased and certain tender spots were noticed along the inner side of the right leg, also a superficial hardness the size of an almond. Severe pains in the knees developed, but there was no objective abnormality. There was occasional diarrhoea.

A number of abscesses were opened on the extremities, December 4th to 9th. The patient became delirious and passed into a typhoid state. On December 7th a few acne-like papules developed around the large forehead ulcer. Nourishment was still taken. On December 11th the nose became swollen and discharge from it diminished. The patient died stuporose on December 12th, the temperature having risen to 104° and the pulse to 140.

*Notanda*:—General symptoms soon after injury; lymphangitis and one abscess four days later; severe obstinate pain preventing sleep;

multiple abscesses; diarrhoea; papulo-pustular rash; nasal involvement; phlegmon of forehead.

ROBINS AND BELL. Province of Quebec. *Royal Victoria Hospital Studies*, II, No. I, May 1906.—A hard-working farmer of 46, giving no history and showing no evidence of venereal disease, had in November 1900 a grippe-like febrile attack, accompanied by a couple of slowly developing, painful, acne-like pustules on the forehead, with transient surrounding urticaria. These pustules refused to heal and in the course of a month three large intramuscular foci developed in the left lower extremity, accompanied by occasional sharp febrile movement, though the temperature was for the most part almost normal. Some foci contained pus on incision, others were solid, with a little oily fluid in the centre. All the foci opened or let alone were most persistent, but prompt healing followed the excision of a glandular focus beneath the jaw. Swabbing out foci with liquid phenol was the only local treatment of any value, and even with it results were slow.

When the foci began to develop, a disease contracted from animals was thought of. Inquiry and a personal examination by the writer of the patient's horses led to a diagnosis of glanders, and a positive mallein reaction in four of the horses, when tested by Dr. A. E. Moore, confirmed the diagnosis, though guineapigs inoculated with cultures from the human wound secretions in February, 1901, failed to develop characteristic symptoms. The weight lost by the patient at first was gradually regained. In April 1901 mallein was administered to the patient, one-sixth of the dose used for the horse being employed. Absolutely no reaction followed. A fortnight later the temperature range was higher, there was severe headache, and the urine slightly reduced Fehling's.

On May 28th, 1901, he was admitted to the Royal Victoria Hospital under Dr. Bell, to whom I owe the notes of his stay there. The urine now contained .8 of one percent. of sugar, but this promptly disappeared on the addition of antidiabetic diet and the urine remained normal even after a return to ordinary diet. The glanders bacillus was repeatedly demonstrated by Drs. Archibald and Keenan in the discharge from the sinuses, by culture and inoculation of guineapigs. As a rule the bacillus mallei was present in pure culture. A focus which developed on the occiput in June, apparently in the bone, was opened and scraped on July 20th. He left the hospital comparatively well on September 21st, 1901, though the occipital focus was still discharging.

Following undue exercise, the occipital wound broke down, pieces of dead bone came away, and headache increased. In January, 1902, one of the posterior cervical glands became enlarged and soon broke down. Glycosuria reappeared. Extensive burrowing beneath the skull occurred in various directions, though the lesions seemed entirely extradural.

He was readmitted under Dr. Bell on February 24th, 1902. The results of further operation on the extradural focus were unsatisfactory. The patient's health and strength failed gradually, painless enlargement of the liver developed, and death occurred on September 1st, 1902, the patient having become comatose a few hours before death.

I am indebted to Dr. Adami and Dr. Nicholls for notes of the hurried autopsy made by the latter. The anatomical diagnosis was:—*Chronic Glanders*: Multiple abscesses in glands, muscles, spleen, lungs and liver; chronic local granuloma of dura mater with compression of left occipital lobe; amyloid disease of liver, spleen and adrenals; acute fibrinous perihepatitis and perisplenitis; portal pylephlebitis; acute colitis; chronic parenchymatous with early interstitial nephritis; broncho-pneumonia.

*Notanda*:—Absence of tendency to mixed infection; intermittent glycosuria, apparently unique in the history of glanders; great difference as to symptomatology between chronic glanders in horses and in man, particularly as regards nasal and pulmonary symptoms, absent throughout in our case; failure of the mallein reaction.

MCCULLOUGH. Saskatchewan. The notes of this case are owed to Dr. J. G. Rutherford, Veterinary Director-General for Canada. Dr. McCullough was written to and permission was asked to make use of the case, but no reply was received before going to press.

A man contracted glanders of the farcy type from his work horses. He recovered after about four months of sickness, during which time about 50 abscesses on his legs and arms were opened. He wintered in California, returning home in the spring to die of lung trouble.

The diagnosis of glanders was verified by Dr. Bell, Government Bacteriologist for Manitoba.

*Notanda*:—The enormous number of abscesses opened; apparent recovery; death from pulmonary disease which was very probably of a glanderous nature.

GRAIN AND ROSS. Manitoba. Notes of this interesting case were obtained through the courtesy of Lt. Rutherford, Veterinary Director-General.<sup>1</sup> Dr. Ross, in whose charge the case was, was written to by the writer, permission to use the notes being asked, but no reply was received.

A farmer, aged 22, had for some months had the care of a horse with constant nasal discharge. He had, however, been away from home for several weeks previous to August 20th, 1905. On that date, as the nasal discharge was unusually profuse, he closely examined the horse, particularly its nostrils and mouth. Doubtless infection took place then. On

<sup>1</sup> An account of this case is given by Dr. McGilvray, Chief Veterinary Inspector for Manitoba, in the Veterinary Director-General's Report for 1905. Department of Agriculture. Canada. Page 123-4.

August 22nd he began to feel sick and languid, though still able to work a little. On August 23rd his appetite fell off and there were pains in the region of the loins and hips. On August 26th the patient became suddenly worse, refusing all food and complaining of pain in all his joints, the articulations and synovial membranes becoming involved. At this date Dr. Ross was called in and diagnosed the case as one of probable typhoid, as there were then no external manifestations suggesting glanders. On September 3rd, however, a large, hot, painful nodule appeared on the forehead. On the 4th and 5th the nodules increased in size and number, appearing on the legs, chest and arms simultaneously. These and also the joints affected were exceedingly painful. On September 6th the nodules had become pustules and were breaking down into ulcers.

Glanders was now suspected and after a visit to the stable to see the horse affected, this diagnosis was definitely made by Dr. Grain, who was called in consultation. The pustules and ulcers developed very rapidly. The nostrils became ulcerated and discharged a gluey, bloody material. Ulcers appeared on the eyelids and around the lips. Owing to the ulcers and the viscid, adherent discharges from them, one eye was completely closed. The patient sank rapidly and died on September 8th, literally covered with pustules and ulcers. The diseased horse reacted to mallein.

*Notanda*:—Period of incubation, definitely two days; typhoid-like onset without local signs, lasting 12 days; period of eruption and nasal discharge and ulceration, lasting five days.

ARMSTRONG. Montreal.—This case was abstracted from the *Montreal Hospital Case Reports*, and is here published for the first time by the courtesy of Dr. Armstrong and the Medical Board of the Montreal General Hospital.

A florid, stoutly built man, aged 37, was admitted under Dr. Armstrong on October 27th, 1905, for swelling of the right side of the neck and right axilla. He gave a history of alcoholism, gonorrhoea and a bubo. In 1902 he had a chancre nine weeks after exposure, followed two months later by a rash on the limbs, mucous patches, and falling out of the hair. For this he received antisyphilitic treatment and the rash disappeared. Several months later a rash appeared which soon broke down and ulcerated, leaving scars and blotches, mainly on the flexor surfaces of the extremities, that were still recognizable on admission to the Hospital. With this rash the original chancre reappeared and broke down. The lesions healed up in a year without special treatment.

In June 1905 many of the horses in the circus where the patient had been employed had to be destroyed on account of glanders. He did not look after these horses, but had to put up and take down the tents in which they were kept. A few days later he noticed in his right axilla



two inflamed lumps which rapidly enlarged, and he felt rather out of sorts. One of these swellings reached the size of a hen's egg and broke down. It discharged bloody matter and was not entirely healed when he entered the hospital. In July 1905, while the patient was on board ship, an inflammatory swelling gradually developed on the right side of the neck and became so painful that he himself incised it, with much relief from the resulting discharge of pus and blood. This swelling, though not very painful, kept extending and for this he entered the hospital.

On admission he showed a dusky red, immobile, inflammatory swelling, the size of a goose egg, below the jaw, discharging creamy pus through a small opening at its centre. The right axilla showed a few hard nodules adherent to the skin, one of them discharging a little creamy pus, and an area of mottled redness extending to the nipple. The glands generally were palpable and there was a slight abrasion of the nasal septum, unchanged six weeks later. Pulse 96, respirations 20, temperature  $99\frac{2}{3}^{\circ}$ . On October 31st only staphylococci were found in pus from the neck. On November 6th a mass of glands, hæmorrhagic internally, was dissected with difficulty from the vessels and nerves of the axilla. The evening temperature began to run higher, reaching  $104^{\circ}$  on November 17. From November 16th to 18th the patient felt wretched, was chilly, had some cough, and vomited occasionally. On November 21st the mass in the neck was dissected out and proved to be inflamed and breaking down glands.

Guineapigs inoculated with the material removed at operation failed to develop orchitis. Dressed with carbolic acid 1-100, the wound had entirely healed by December 2nd, after which date there was no more vomiting. The temperature ranged lower after this operation and was normal after December 8th. There was pain in the left side, cough and muco-purulent expectoration, bloody at times. Examination of the chest showed only some wheezing. The mucosæ of the larynx and pharynx were pale.

The patient's general condition remaining good, he was discharged on January 2nd, 1906. Unfortunately the further history of the case is unknown.

*Notanda*:—History of contact with glanders; obstinacy of glandular foci; abrasion of nasal septum, unaltered in six weeks; suggestive character of the slight pulmonary manifestations; benefit following radical surgical measures; probable combined infection with two of the infective granulomata, though experimental proof of glanders was lacking.

STEWART. Manitoba. The first authentic account received of this case (by Dr. McGilvray) is also owed to Dr. Rutherford. Dr. J. D. Stewart

of Darlingford, in whose charge the patient was, very kindly placed at the writer's disposal his own notes of the case.

A farmer, aged 35, whose horses had been treated by him for some weeks for supposed distemper, began to feel unwell on May 5th, 1906. He had been wet the day before and thought that he had caught cold. He continued to go about and do his work until May 8th, when he took to bed with severe pain in the right leg and left arm. The man now supposed himself to be suffering from inflammatory rheumatism. On May 12th Dr. McGilvray, Chief Inspector of Stock for Manitoba, found that the sick horses were suffering from advanced glanders and destroyed them. He also examined the patient, who had pains in the axilla and in the neighbourhood of the joints, particularly the knees and hips. His face showed marked icterus, with darkish areas under the eyelids. Dr. McGilvray diagnosed glanders and had Dr. Stewart sent for, who confirmed the diagnosis. At Dr. Stewart's first visit the only lesions were a painful, swollen, tense, shiny area of cellulitis the size of one's hand on the right calf and a similar area of inflammation on the left upper arm. The patient was restless and feverish (temperature  $103\frac{2}{3}^{\circ}$ , pulse 100) and had slept badly the night before. The circulatory and respiratory systems were negative. On May 13th the patient's condition was unchanged. The lungs and nasal passages were normal. On May 16th the fever was high and an ulcer about half the size of a five cent piece had formed on the left shoulder, also one on the face and one on the left thigh. The pulse was quite irregular. There was no cough and no nasal discharge. On May 17th the patient had been in agony and was greatly depressed. Over a dozen small lesions had developed on the shoulders, back and thighs. These showed all stages between reddened papules and pustules, but had not at that time ulcerated. On May 19th the patient was literally covered with sores and died on the 20th. No other human cases developed, though a rumour to that effect was prevalent at the time of the man's death.

*Notanda*:—Period of general illness preceding by some days all local manifestations; scantiness of local lesions till two or three days before death, when they developed very rapidly.

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# THE FAMILY PHYSICIAN AND THE INSANE.

BY

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Having accepted the honour of reading a paper before your association, it behooved me to select a subject alike interesting and instructive. In a specialty, the general knowledge of which has been so limited, as is the case with that to which I have devoted my life, the problem was not an easy one.

To the average medical man, prior to the past decade, the field of psychological medicine, if not a *terra incognita*, was at least a trackless waste, dreaded and almost tabooed. The error and the evil result of this state of affairs are only too palpable.

Insanity is a disease which invades all classes, and from which no one, be he rich or poor, high or low, can claim exemption. It is a disease that involves to the patient himself, his family, and the community at large—a wider range of interests than any other known disorder. To the patient it involves the loss of that faculty which alone distinguishes man from the lower animals; it also, usually, involves the loss of the liberty guaranteed him by our laws, as well as of the control of his business and property; and it may possibly involve the loss of his life through self-destruction. To the family of the patient it involves the spectacle of a loved one with reason dethroned, and the putting away of that loved one into the care of strangers; it involves the stigma which society so cruelly and so unjustly attaches to the taint of insanity; and it often involves the cutting-off of their source of livelihood. To the community at large it involves danger to life and property from the acts of homicidal and dangerous lunatics, and imposes upon it an enormous burden of taxation for the maintenance of a vast and constantly increasing army of insane people.

In view of these facts is it tenable that the study of insanity should so long have been made a special science, a thing apart from the ordinary range of general medicine? To my mind it is not, and no greater advance was ever made in our noble profession than the establishment of the study of mental diseases as a part of the regular medical curriculum. Insanity is as much a bodily disease as phthisis or typhoid fever. The insane action or idea as surely springs from a morbid condition of the brain as a bilious attack springs from a morbid condition of the liver. There is no mystery about it. It is simply a mental manifestation arising from a physical cause, and should form

as necessary a part of medical knowledge as chest or abdominal disease. I, myself, believe that the separation, in bygone days, of one organ, and that the highest, the brain, from general medical study has been one of the most fruitful causes of the overcrowding in our insane hospitals, because, thereby, incipient insanity has been too often suffered to degenerate into confirmed lunacy from lack of early appreciation of the true mental state. The curability of mental disorder hinges, in great measure, upon its early treatment, and with all medical men possessing a fair knowledge of its prophylaxis and premonitory symptoms, insanity would meet an important check to its future progress. The sentinel who is at every man's door, be he rich or poor, the general practitioner, is the one who should be able to foresee the coming attack and to take steps to avert it, or, if this be impossible, to mitigate its evils as much as possible.

In the latter connexion, it has occurred to me that I could not employ the evening more profitably than by calling to mind some of the duties of the family physician with regard to the admission of lunatics to asylums, since it is now so generally the custom to relegate the sick in mind to institutions set apart for their care and cure.

In no disease has the family physician weightier responsibilities than in insanity. On him depend the diagnosis of a person's insanity, the advisement as to home or hospital treatment, and, should the latter be decided upon, the certification of the mental condition and the supplying of information to guide the hospital physicians in the treatment of the case. It is on these points I shall dwell to-night, believing that they will be of more practical value than is to be gained by the discussion of any one form of mental disorder.

Of the diagnosis of insanity I shall endeavour to give some hints when speaking of certification, and for the present will premise that the physician has convinced himself of a patient's lunacy. This done, the next question to decide is, whether home or hospital treatment is the most advisable. The decision on this point hinges upon the character of the case and the means of the relatives. In cases of acute maniacal excitement the question is usually easily answered as there are few families that are in a condition, financial or otherwise, to care for an acute maniac. The same applies to cases of agitated melancholia, in fact, to any case where there is marked mental or motor excitement. In cases of paranoia with delusions of persecution, and in those of epileptic insanity attended with outbreaks of fury, the risk of a tragedy is so great that I would strongly advise their being placed in a hospital with the least possible delay. But even in the mildest

forms of insanity, separation from the immediate friends and accustomed surroundings is in most instances absolutely necessary as a preliminary step to further treatment. If a patient belongs to the poor or middle classes, isolation can only be satisfactorily obtained in an asylum. Among the rich, the needed seclusion may be successfully secured in their own homes, or by means of travel with a suitable nurse, companion or physician. Personally, however, I am of the opinion that the vast majority of cases of insanity, irrespective of the form of the disease, have a far better prospect of recovery in a well-managed hospital for the insane than they have at home, no matter how ample the means of their friends may be. The mere fact that he is kept in contiguity to his accustomed surroundings is a drawback to a patient, while the complete change from home life to hospital life, with the discipline and routine of the latter, are likely to be of the greatest benefit, besides greatly lessening the risk of suicide, homicide, or other unfortunate occurrences. An important consideration too often lost sight of, but one which should always be well weighed, is this,—the ill effect that continued association with an insane person is likely to have upon other members of the family, especially if they are predisposed to mental disorder.

Admitting, however, that there are occasional cases of insanity for which home treatment may be safely recommended, a few words on the subject of treatment for mental ailments may not be out of place. While each case must be treated individually, there is much common ground, and one of the first points to bear in mind is the fact that in the early stages of acute cases, whether of melancholia or mania, rest is often necessary. This rest should be made as absolute as possible during the first couple of weeks, for which purpose the patient should be confined to bed at least the greater part of the time. When this is done, tissue metabolism must be encouraged by strict attention to diet, and the substitution of some passive artificial exercise for the active movements of the body. The latter indication is best accomplished by massage. As regards diet, the selection should be made from the point of view of easy digestibility, and foremost in this regard stands milk and its various preparations. It is to be given frequently and in considerable quantity, in fact, overfeeding, if I may use the expression, is a cardinal principle in the treatment of any mental disease in which exhaustion is a feature, it being a well known fact that maniacs will assimilate many times the amount of food needed in health. Certain cases require feeding every hour or every two hours. Raw or soft-boiled eggs, raw or rare beef, specially prepared cereals,

and sometimes green vegetables and fruits may be added to the diet. Stimulants are but very occasionally indicated, and only in dangerously exhausting conditions, such as acute delirious mania. Insane patients, through delusion, often refuse to take the food offered them, but the tactful, persistent nurse,—and recollect that a nurse or two, qualified for the special work, is a *sine qua non* for home treatment,—can generally induce them to swallow sufficient liquid food. When, however, she fails, forced feeding by means of the stomach or nasal tube must be resorted to without undue delay.

Insomnia is often one of the most troublesome symptoms we have to combat in mental disorders, patients sometimes remaining abnormally wakeful for days unless steps are taken to relieve them. To procure sleep there is no panacea, and first we should try to woo it by measures intrinsically harmless. There is no sleep so refreshing as natural sleep, a fact well recognized by that master-student of nature, Shakespeare, who makes Iago say of Othello,—

“ Not poppy, nor mandragora,  
Nor all the drowsy syrups of the world,  
Shall ever medicine thee to that sweet sleep  
Which thou ow’dst yesterday.”

For this reason drugs should be a last resort. Open air exercise, pushed to the point of pleasant muscular fatigue, such as an hour’s walk or a drive, when strict confinement to bed is not deemed advisable, will often quiet a patient and secure refreshing slumber, thus obviating a recourse to the pharmacopœia. In many cases sleep can be procured by a prolonged warm bath. It is best given just before bedtime, with water at a temperature of about 90, and should last from twenty minutes to half an hour. Often the hot wet pack is even more effectual than the ordinary hot bath. In some cases when simple irritability produces insomnia, a stimulant will induce sleep, and it has been customary with me to first try a sleepless patient with a hot bath followed by a night-cap of hot Scotch, often with surprisingly good results.

Should these simple means fail, drugs must be resorted to, but in their use we must beware that nature does not come to depend upon them. Of these one of the best is sulfonal, alone or combined with trional. The great objection urged against sulfonal is the slowness of its action, for which reason, if administered alone, it should be given about four or five o’clock in the afternoon. This objection is greatly lessened by its combination with trional, which is more speedy in its effects. Ten or twelve grains of each given in gruel, milk or water, as hot as it can be swallowed, at bedtime, will often induce rapid and

prolonged slumber. Another excellent hypnotic, though much less used than formerly, is chloral. It is most applicable to acute hallucinatory conditions, and the insanities connected with epilepsy and chorea. Hyoscine is indicated when there is motor excitement, and has the advantage that it is prompt in its action, and can be administered hypodermically. Paraldehyde is highly extolled by some authorities, and, having no bad effect upon the heart or circulation, can be safely administered in cases where sulfonal, chloral and hyoscine are contra-indicated. In melancholia and alcoholic insanity, opium and its alkaloids are valuable. As a rule, however, and especially in acute maniacal conditions, they are useless and harmful, impairing digestion, and thus combating the effects we most desire. Either morphine or codein may be given hypodermically, but the latter, I think, is preferable.

In the use of any of these drugs it is well to intermit them from time to time to see if the patient cannot sleep without them. Frequently, two or three doses having produced their effects, nature will take care of itself, and the patient rest without their use. It is advisable also to change the hypnotic used after a few doses, so that the patient will not become too much accustomed to any one drug. In this way we lessen the risk of forming the drug habit, and avoid the evil of setting up a tolerance which will require constantly increased doses to produce the usual effect. I need hardly say that in no case should the patient be told the name of the drug employed.

What I have said with regard to hypnotics leads naturally to the use of sedatives to quiet excitement during waking hours. Such drugs have, as a rule, no specially curative effect in themselves, and it is generally far better to endure a patient's noise, and to allow a certain amount of action, rather than to repress it unduly so long as the patient is in good physical condition. When, however, there is marked exhaustion, we have sometimes to resort to them, and the drugs most commonly employed are hyoscine, duboisin, and conium.

Of late years it has come to be a well recognized fact that auto-intoxication from the absorption of poisonous substances generated in the alimentary canal by putrefactive and fermentative processes is a factor in the production of some cases of insanity. For this reason it is generally advisable to give an enema first thing when called to see a patient mentally afflicted, and, if auto-intoxication be suspected, to follow this by the administration of intestinal antiseptics, such as betanaphthol or salol. The abundant use of water is a necessary adjunct to the use of both these drugs, and the patient should drink a tumblerful of hot water several times daily on an empty stomach.

Aside from the strictly medical treatment, a large number of remedial measures are demanded in caring for the insane, and one of the most important of these is to guard against the suicidal tendency so common in many forms of insanity. Patients with such tendencies must be carefully watched night and day, and the physician should himself see to the guarding of windows, and the removal of hooks, scissors, knives, drugs, strings, pins, matches, etc.—in short, of all instruments and means which could in any way be utilized for a suicidal purpose. In hospitals, one of the first precautions taken in the case of suicidal patients is, that they shall not be allowed to sleep in a single room. Deliberate suicide is rarely undertaken in the presence of others, hence the object of placing this class of patients in associated dormitories. The medical attendant cannot be too careful in warning friends and nurses of the possibility of self-destruction, and in his efforts to guard against it, because the ingenuity displayed by the insane to this end is something marvellous. A patient has been known to strangle himself with a cord while lying in bed under the eye of a nurse; another to try to sever an artery, under the bedclothes, with a small piece broken from a china plate; and yet another to break a tumbler and try to swallow the pieces. One patient of my own suicided by standing his bedstead on end and hanging himself with a sheet from the foot of it, while a second effected her purpose by cramming the corner of a sheet down her throat until suffocated. The only safe rule in dealing with the insane is to regard all cases as possibly suicidal, and all cases of melancholia as almost certainly more or less so.

Moral treatment, or, as it is sometimes called, psychic treatment or psychotherapy, is among the most important means of benefit in mental alienation. It comprises not only employment and amusement, but all methods and devices that can affect the patient's condition other than the ordinary medical means adopted; in short, all things that tend to lift the patient out of his self-absorption and engender new trains of thought. To describe them is impossible, since they include all that is embraced under the comprehensive term "asylum management." They can rarely be enforced outside the wall of an institution.

Let me next call attention to what I consider to be one of the most important subjects that can engross a physician's attention, namely, the proper filling out of the forms used in committing a patient to an asylum. Had you seen but a tithe of the mistakes made by the profession in applying for the admission of lunatics and the preparation of certificates, that I have done, you would not wonder at my laying much stress on the subject. I have noticed, too, that the mistakes



are not always made by the junior members of the profession; the senior are almost equally guilty. Doubtless the latter would plead in extenuation that their attention is so taken up by their general practice and other duties that they are unable to give the necessary time. I cannot, however, disabuse my mind of the impression that with many of them the errors made are due, in great measure, to simple ignorance or carelessness. Be that as it may, this fact remains, the physician who expects remuneration for his services should give full value for his fee, and he can only do this by bearing in mind the old adage, "Whatever is worth doing is worth doing well." The hand of Justice sets safeguards about the liberty of the citizen, and forbids his being put under restraint without exact compliance with certain legal formalities. It may seem a waste of time to tell you this, but many medical men act as if unaware of the fact, and insane persons are from time to time landed at asylum doors with only an informal line from some sapient physician requesting their admission. These wisecracs seem to be ignorant of the fact that it is felony to detain any person in an asylum except under definite legal conditions, and have no hesitation in asking asylum officials to lay themselves open to a criminal prosecution. Nay, more, they are occasionally deeply offended because they will not do so. The medical superintendent of a hospital does not make the laws of the land, neither can he alter or amend them. His duty lies in seeing that those relating to the admission of patients to his institution are strictly complied with.

In almost every country, in every state of the Union, and in every province of the Dominion, the laws as to the committal of lunatics differ more or less. In all cases, however, the general guiding principles are very similar. The wise medical man, let him locate where he may, will not fail to immediately read up the laws of that country in regard to the admission of lunatics to asylums. He knows not the moment he may be called upon to recommend the sending of a patient to a hospital, and, although admission thereto is really more of a legal than a medical procedure, it generally falls to the lot of the family physician to oversee it. If through his ignorance there be any hitch in the proceedings, rest assured the friends of the patient will not fail to resent it, and the doctor's practice will suffer accordingly. In all cases, whatever else be added or omitted, a medical certificate is always required, and with it some history of the patient. The only exception to this rule is in the case of voluntary admissions, that is where persons cognizant of their condition ask of their own accord to be received as patients. This mode of procedure has been in vogue

in Scotland, Massachusetts, and a few other places for a number of years, and is now permitted, in the case of private patients, in the Province of Quebec. It, of course, necessitates that the patient must be in such a state of mind as to admit of his understanding the nature of his act.

The friends of an insane person having accepted a physician's advice to adopt hospital treatment for him, the proper blank forms should be procured at once from the proper authorities, usually the superintendent of the asylum to which it is proposed to send the patient. In applying for these forms, whether by letter or telegram, such particulars should be sent as the patient's name, sex and age, the duration of the attack, and whether he is dangerous to himself or others. The reason for this is that there might be room in a hospital for a man but not for a woman, or *vice versa*; again, hospitals, especially when crowded, always give the preference to young, acute cases and those dangerous to life and property. In the Province of Quebec it must, in addition, be stated whether the forms required are for a public or a private patient, because the papers differ materially in the two cases.

The various blanks are, as a rule, self-explanatory, and require but reasonable care to fill them up correctly. Nevertheless, innumerable mistakes are made. A physician is chiefly concerned with the medical certificates and the history of the case, but he will find it to his interest, as well as that of his patient, to be familiar with all the forms, so that he may be able to give advice as to the filling of them. Ignorance of the law is no excuse for a breach of it, and a mistake made through ignorance will not render a paper valid. The physician must recollect that in filling up the several forms it is not a matter in which he or the friends may please themselves as to what they say or leave unsaid. The law lays down the exact form that must be followed, often even defines the exact wording that must be used, and any deviation from this renders the paper illegal, and, therefore, valueless. For example, if the law states that the word lunatic must be used in filling up a space left blank for the purpose, a man is not justified in inserting therein, "is of unsound mind." A warning that I always give to my students when lecturing at McGill may not be out of place here. It is this. Never put your pen to a paper until you have first carefully read over every word of it. Many of the mistakes made, I am convinced, arise through people trying to fill up forms as they read them, that is, without having previously read them over to get a correct idea of their contents and of what is required of them in the filling.

The papers when filled should be returned to the hospital that the officials there may satisfy themselves of their correctness, and of the suitability of the case for reception. If the case be an extremely urgent one, the patient may be taken to the hospital along with the documents, but, if this be done, it is at the risk of his custodians, as there is always the possibility of his being refused admission because of informality in the papers, or for other reason. Over and over patients and papers have been brought to me together, and, owing to defects in some of the forms, I have been obliged to refuse to receive the patient, thus putting the friends to the trouble and expense of taking him away until the necessary corrections were made. Sometimes dates have been omitted, sometimes signatures have been wanting, sometimes a paper has not been sworn to, and sometimes vital questions have been left unanswered. Consequently, it is always well to have the papers accepted beforehand, and permission to convey the patient to the hospital granted.

Now as regards medical certificates of lunacy and those empowered to sign them. In the Province of Quebec, only physicians who are registered, and actually engaged in practice are qualified to sign such. In other words, a retired physician, even though registered, could not do so. In Ontario the law only demands that the physician shall be registered in that province. Again, in Quebec, the signing physician must not be related, within the third degree, either to the applicant, the patient, or the proprietors of the asylum,—that is, he must not be a nearer relative to any of these than a second cousin; moreover, in the case of private patients, where two certificates are required, the signing physicians can be neither partners, brothers, nor father and son. In Ontario the law makes no such stipulation, although, I think, it certainly should do so. Curiously enough, in the Quebec law there is no provision against a husband and wife, when both are members of the medical profession, signing the two certificates, provided they be not partners in business.

In filling out a certificate, physicians often lose sight of the fact that the printed portion is fixed by law, and requires as particular attention as any other part. Here both the examiner and the patient must be designated precisely, and the date of examination correctly inserted. These seemingly slight requirements are of grave importance. For instance, in Quebec the legal name of a woman, even though married, is her maiden name. This fact, based on French law, is overlooked by or unknown to eight out of every ten English speaking doctors. In consequence, if a woman's maiden name has been Mary Smith and

she has married a man named John Jones, a certificate in her case should be filled in thus:—Mary Smith, wife or widow, as the case may be, of John Jones. Throughout the rest of the Dominion, and in the United States, where the statutes are based on English law, a married woman's legal name is that of her husband, in which case her name in a certificate would simply be filled in as Mary Jones. The necessity for correctly filling in the date hinges on the fact that the law always proscribes the period, prior to admission to an asylum, within which the examination on which the patient is confined must be made. Hence it is of the highest moment that the date of examination be given correctly, in order that the hospital authorities may verify this. In Quebec the term is fixed at twenty days, in Ontario at three months, the latter period being, in my opinion, much too long.

In the body of the certificate must be entered the grounds on which a person is judged insane and suitable for confinement. Here it is that so many certificates fall short. The physician, it must be borne in mind, is not expected to diagnose the form of insanity from which a patient is suffering, merely to set forth such facts as will convince anyone reading them that he is insane and a proper case for confinement. To procure these facts for insertion necessitates an examination of the patient, because the basis of proof must be obtained by personal observation, of the patient on the date specified in the certificate. The opinions of others, though often very valuable, can only be introduced secondarily, and most certificates provide a special blank space for the introduction of such evidence. It is not sufficient to say that a patient is insane. The law distinctly says that one must give the details, that is, specify the facts, upon which he bases his opinion of the patient's insanity. For example, merely to say, "Saw her at home and found her insane," or, "He is generally irrational in all his actions," examples of certificates I have had sent me, will not fill the bill, and would, if the makers had to defend them in court, give the prosecution a veritable walk-over.

The diagnosis of mental derangement is very different from that of ordinary bodily disease, and often much more difficult. In cases of ordinary disease patients go to see a doctor, or ask to have one sent for, and do every thing they can to facilitate his inquiries. In mental disorder the patient is often very averse to seeing a physician, and exceedingly reserved toward him; or is, in consequence of his insanity, incapable of giving, or unwilling to furnish, exact information. The wise physician will learn all he can, from outside sources, of his patient's past and present history before interviewing him, but information

so gained must not be allowed to bias his mind. It is only to be used as an aid to his examination, and is to be taken only as confirmatory of what he himself may observe. If he omit to ascertain anything before visiting the patient, he should not seek to remedy the omission by asking the question in his presence, unless it be something he is perfectly willing he should hear. In connection with the obtaining of outside evidence, I might say that it is sometimes of value to inspect a patient's letters or other writings and compare them with those written before the attack began, because such documents often prove fruitful sources of information. This rule is especially useful in doubtful cases. Many lunatics who are very reticent in conversation will, in what they write, reveal the morbid ideas under which they labour. The whole style of a letter, the signature and direction, may show the predominant fancy in mania and melancholia, or betray the failure of mental power characteristic of dementia. General paretics leave out letters, words or syllables, or they misplace them. The crossing out of many words indicates a difficulty in thinking, while the frequent underlining of words and addition of numerous notes of exclamation, points to an abnormally exaggerated process of thought.

In most countries the law demands that the examination on which a physician bases his certificate must be made separately from any other medical practitioner. This should be remembered, because I have known cases where consulting physicians founded their evidence of mental disorder on the evidence elicited during the consultation. If, therefore, two physicians make an examination together for the purpose of consultation, they must, ere either of them can legally sign a certificate, again visit the patient, examine him separately, and elicit afresh the information to be inserted. Otherwise, if at any future time, the alleged lunatic were to bring an action for false imprisonment, and the signer of the certificate was examined under oath, the document would probably be declared invalid for neglect of this precaution, and the maker, in all likelihood, brought in for damages.

In confronting a patient it is best to do so undisguised. Lunatics are, as I have said, often averse to seeing a doctor, for which reason friends are prone to advise a resort to stratagem, one of the commonest being that the examiner should be introduced to the patient as a lawyer, clergyman, merchant, or the like. This is a grievous mistake, because in such assumed character he has no fair pretext for discussing the patient's state of health with him, and questions he may wish to put are liable to be regarded as impertinent or absurd. Many of the insane are even preternaturally sharp and able to see through the most cun-

ningly devised plans. They are also extremely mistrustful, and once let them suspect they are being deceived may take refuge in the most obstinate silence. Honesty should be the rule here as elsewhere, and my advice is that the examiner should go in his own character of physician, and as nothing else. As a doctor he has a reason, whether the patient admits it or not, for cross-questioning him on all points. It is not necessary to blurt out the fact that the visit is paid for the purpose of certifying to his insanity, though one should not be afraid to say so if asked. It will generally be sufficient to say that he has been requested by his friends to inquire about his health, which they fear is not good. Such a statement will enable him to enter upon a physical examination of the patient, a proceeding that will disarm his suspicions, and during which he can study his mental state as reflected in his appearance, actions, and conversation.

As a rule there is little trouble in discovering the insanity of the melancholiac or the maniac. It is a different thing, however, when we have to deal with the suspicious paranoiac, with a patient whose insanity is displayed in acts rather than by words, or with one who is merely weak-minded. With such cases, one may converse for a long time and not be able to detect any symptoms of mental obliquity. Far better to begin with a physical examination, and, while making it, bring the conversation around to what you have been told are the false ideas or insane acts. It is then one sees the advantage of appearing in his true character of doctor. It gives one the right to question the patient upon any and all things connected with his daily existence. He may assert that you are not his medical adviser, that you have no business to question him, and that he wants none of your advice; but you can assure him that you have been requested by his family to see him, they being alarmed at his symptoms. In his justification or explanation he will generally open up the real state of his mind. It may happen, however, that a patient, without keeping absolute silence, which silence in itself would be a strong evidence of insanity, will tell you nothing. Such answers as he does give are correct and to the point, but he will not converse concerning himself. In these cases it is well to be politely persistent and prolong the examination, even to the extent of tiring the patient, because many patients will, when fatigued, finally yield to the friendly insistence of the examiner. If, spite of such persistence, you fail in your object, there is nothing for it but to take your leave and see the patient another day when perchance he may be in a more conversational mood.

When a patient is said to have committed some outrageous or peculiar act, it is often a good plan in examining him to come to the point

at once by asking him if the statement is true. If he admits it, ask his reasons therefor. They will generally be found inadequate or absurd. If he denies it, confront him with the evidence, and so force him to give his reasons.

Although insanity may exist without delusions, yet there can be no doubt of its presence when they do exist; hence it is always satisfactory to discover and record them if present. In his search a physician should be careful to satisfy himself that what a patient affirms really is a delusion. Probable things may be delusions, and highly improbable things may not be. Some statements admit of no doubt; for example, when a patient says that he has no blood in his body, or that he is a king, etc. Many assertions, however, are only known to be delusions from outside information. A very common delusion, especially in cases of alcoholic insanity, is for a man to believe his wife unfaithful. But if this be all one can discover, and you have only the patient's word on the one hand and his wife's on the other, are you necessarily to believe her statement that he is labouring under a delusion. Very likely from the man's mode of asserting the fact and the grounds he gives for his belief, you may be able to assure yourself that it is the assertion of a lunatic. For instance, he may be unable to give any grounds for his belief, or may state the unfaithfulness to have occurred at a time or in a way manifestly impossible. Again, a man says he is wealthy, or has been reduced to poverty; such assertions can only be verified as delusions by outside evidence. When, therefore, a patient holds a belief which on the face of it might or might not be a delusion, in making out a certificate one should always add, after stating the belief, some such words as, "which I know to be a delusion," or, "which is contrary to fact."

A point always to be weighed in the examination of a patient is whether he is an ignorant or an educated person. Peculiar ideas in the former may not be delusions, while in the latter they are. I have met many illiterate persons, perfectly sane, who were firm believers in fairies and witchcraft, and who would tell marvellous stories of what they had seen and heard. Such beliefs, in such persons, are not to be regarded as delusions, but as errors resulting from want of education. In like manner care must be taken to make due allowance for a patient's station in life. This is especially true in cases where we have to base an opinion on violence of conduct and language. If a gentleman openly uses vulgar and obscene language we may reasonably question his sanity; but if one in the lower walks of life calls his wife filthy names, or threatens to beat her, it does not follow that he is in-

sane. The fact of a lady talking lasciviously in public would be good evidence of insanity, not so in the case of a prostitute.

Cases of mental disorder where no delusions exist and where the patient's acts are not manifestly due to insanity are the most difficult of all to diagnose. One may be called in to see a man whose only symptoms are a change in character, habits and conduct. Everything then will depend upon the opportunities you may have had to recognize the change in the individual. If one can say, of his own knowledge, that a patient has completely altered in a comparatively short time, without obvious or adequate cause, it is perhaps the strongest assertion he can make in support of the opinion that he is insane.

A certificate is strengthened in proportion to the care shown in its construction. One should be careful, therefore, in giving the facts to avoid stating what is valueless, and equally careful to omit nothing of value, saying it in as precise but brief a manner as possible. Statements that go to prove sanity should be carefully excluded, yet frequently we see such phrases as, "He has no delusions," "He is not dangerous," or, "He talks quickly but sanely." All such statements tend to show that the patient is sane, not insane.

Let me here cite some samples of certificates that I have been obliged to refuse. "From his peculiar actions and conversation, being constantly talking on subjects that persons in a proper state of mind would not do." If some of the peculiar actions had been described, and some of the conversation recorded, this certificate might have passed muster. Another read simply, "Manner and appearance." The manner and appearance were not described, and no fact whatever pointing to insanity mentioned. Another equally valueless, and almost equally brief, read, "Violent fits of insanity. Has been insane before." This certificate having been refused, the physician filled out another as follows: "Very violent, talking very violently and saying he was not insane." Needless to say, this was also rejected, and a rather sharp letter sent to the doctor. It had the desired effect, and brought me the following excellent certificate, "When examined he talked boisterously, walking up and down the room, kicking over the chairs. Said because the Lord had appointed him to judge the world his people called him crazy, but he was straight as I was, and he would prove it to their sorrow by making an end of some of them." Had the doctor furnished this in the first place, as he should and evidently could have done, he would have avoided the appearance of ignorance, I would have been saved a great deal of trouble, the friends would have been saved expense, and the patient would have been admitted several days sooner.



In one certificate from a prominent medical man the only information given was contained in the two words, "Puerperal mania." Perhaps, however, the climax was reached in a certificate wherein the only fact alleged to prove unsoundness of mind was, "He tells lies." I fear were all those who stretch the truth to be "run in" we would have to vastly increase our asylum capacity. For this patient the doctor could easily have filled out a good certificate had he taken at first the time and care that he was obliged to do later. True, the proof of mental unsoundness was best seen in the patient's telling lies, but they were insane lies, in other words, delusions. For example, he averred that he had never been in Ireland, whereas he was born and brought up there; he said he did not know the gentleman who was his guardian, although he had been living with him for two years; and he persisted that his name was Mountain while everyone knew that it was in reality something quite different.

Before quitting the subject of certificates I would say, in his examination of a patient a physician should never be satisfied with the detection of one decided symptom of mental unsoundness, such as a well-marked delusion, to the exclusion of all others. On the contrary, he should examine the patient thoroughly, and, at the least, report all the principal symptoms. A certificate depending on the statement of a single delusion, as a proof of insanity, would, in an important trial, run a possible chance of being disputed, whereas if fully made out it would prevent all cavilling. Again, in his examination, he should always be careful to see that the patient has fair play. He should remember that he is examining him to satisfy himself as to the real state of his mind, not to trip him up and extort what will sound well in a certificate. We all know how readily a clever lawyer can bewilder the average witness in cross-examination. In like manner, it is no great task to so puzzle an inferior intellect as to make a sane man seem really wrong in his mind.

The filling in of the form of history which accompanies the certificate also usually falls to the medical examiner. While all the questions included in this form are valuable, some of them are especially so as bearing on the treatment and prognosis in the case, and no pains should be spared to answer them correctly and fully. It is to these that I would now call attention.

The questions relating to how and when the disease first manifested itself, and the number and nature of former attacks, if any, are of great moment as regards prognosis, yet it is quite the exception to get reliable information on these points. Friends are prone to make the

duration of the illness very short, whereas it may turn out on inquiry that the patient has really been insane for a long time, though possibly excited or dangerous for only a few days or weeks. The insidious approach of the disorder often causes its earliest symptoms to be overlooked or ignored, so that close questioning, on the part of the physician, will be necessary to get at the real state of the case. That dire form of mental disorder, general paresis, for example, may in its incipency so closely simulate neurasthenia as hardly to be distinguished from it.

Hallucinations, especially those of hearing, should always be mentioned, if they exist, as a warning to those who are to take charge of the case, because such hallucinations taking the form of "voices" often incite to crime.

A correct reply to the queries regarding suicide and homicide may also go far toward saving life, yet too often they are answered with the much abused and easily written "No." If there be any doubt on these points, it is far better to state the suspicion than to give a direct negative. In answering them the physician should not only state that patients have, or have not, injured themselves or others, and how, but also say whether they are really suicidal or homicidal. In other words, care should be taken not to confound actions which are the result of delusions with actions prompted by true suicidal or homicidal intent. To do this I find is a very common error amongst medical men. A person may refuse food believing it to be poisoned. In such a case there is no true attempt at suicide. On the other hand there is a genuine attempt at self-destruction if the patient refuses to eat through the wish to die of starvation. Again, a patient may jump from a window in order to escape from imaginary enemies. Here the man has not attempted suicide in the true sense of the word, as would be the case had he wilfully thrown himself out in order to take his own life. It is much the same as regards homicide. The patient who kills an attendant trying to prevent his escape is not a homicide in the same sense as the one who kills him because he thinks he is divinely inspired to do so. The intention to take one's own life, or the life of another, is what constitutes suicide and homicide in the correct sense of these words.

Then there is the question of heredity, about which such lies are told as must make the father of them hilarious. No physician can be long in practice without being brought face to face with the question of what constitutes the code of morality with regard to the truthful answering of interrogations concerning family history. I do not

for a moment mean to insinuate that all relatives will come to him with their minds fully made up either to evade these queries, or tell absolute falsehoods; but I do say, that he will find it no easy matter to get a full and truthful family history of many of the cases brought to him. People are very loath to admit the existence of any hereditary taint. Why brain-disease should be regarded as more disgraceful than disease of the lungs or any other organ of the body, or why the fact of insanity being in a family should be looked upon by the public as tantamount to an acknowledgment of criminality, I for the life of me cannot see. Such, however, is the case, and, until the masses are educated out of such erroneous beliefs, friends will continue to lie about their antecedents most unblushingly. Often I have known cases where the relatives have positively asserted that there was no trace whatever of insanity in their family history, and often I have afterwards discovered that it had been well marked for generations.

In the matter of heredity, the wise physician will inquire from other sources than the relatives, and not only note insanity in the ancestry, but also eccentricity, epilepsy, hysteria, and alcoholism, because these diseases are predisposing causes second only to actual mental disorder.

A doctor has also to delve deeply to get at the true cause of insanity, and is apt, to save himself trouble, to say, "Unknown." It is a very frequent thing for asylum officials to be asked the cause of insanity, and relatives can scarcely be made to grasp the fact that it is upon themselves and the family physician that the hospital authorities must in great measure rely to discover it. The statements of friends are usually vague and often shed but little light on the true cause of the disorder. Sometimes a wholly irrelevant circumstance, which happens to precede the break-down, is assigned as the exciting cause; and quite commonly certain symptoms, which the patient displays in the period of emotional disturbance that goes before the complete loss of self-control, are wrongly taken as the exciting cause instead of what they really are, mere incidents of it. This is notably true as regards religious excitement. Care should also be taken not to snatch at effect for cause, as is too commonly done. Masturbation and intemperance are more frequently the consequence of a diseased brain than physicians state.

There are a number of other points upon which I might touch respecting the examination of lunatics and their commitment to asylums, but I fear I have already trespassed too long upon your patience. What I have said may seem trivial to some of you, who would perhaps have preferred that I should have taken up some of the abstruse pro-

blems of psychiatry, such as Ford Robertson's recent and praiseworthy researches into the bacillian origin of general paresis. I trust, however, that my words may not be entirely fruitless, for, as Milton expresses it,—

“Not to know at large of things remote  
From use, obscure and subtle, but to know  
That which before us lies in daily life,  
Is the prime wisdom; what is more is fume  
Or emptiness, or fond impertinence,  
And renders us in things that most concern,  
Unpractised, unprepared, and still to learn.”

## TWO CASES OF MILIARY TUBERCLE OF THE CHORIOID.

BY

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It may be well to state at the outset that there are two distinct varieties of tubercle of the chorioid. First, the chronic tubercle or tubercular tumour which is usually secondary to chronic tubercular disease in other parts of the body, though in rare cases it may be primary in the eye, and which rapidly destroys that organ, and, second, the miliary tubercle which is found in the chorioid in cases of general miliary tuberculosis and causes no symptoms referable to the eye. It is this latter form alone that we shall consider.

According to Greef, Manz in 1858 was the first to realize that the nodules found in the chorioid in cases of general miliary tuberculosis were of the same nature as the miliary tubercles found in the other organs. His observations were made on post mortem material only. Nine years later Cohnheim, from a series of eighteen autopsies in cases of miliary tubercle in which the chorioid was found to be involved in every one, came to the conclusion that the occurrence of miliary tubercles in the chorioid, in cases of general miliary tuberculosis, was not to be regarded as being a medical curiosity, but as a common if not constant condition in such cases. Cohnheim's work has been confirmed by other investigators, although the percentage of cases, in which the chorioid was found to be involved, was not so large. Litten, for example, found chorioidal tubercles in 39 cases out of 52, i.e. in 75 per cent.

Although Ed. Jager of Vienna described a case in which he discovered tubercles in the chorioïd during life by means of the ophthalmoscope in 1855 this was regarded as something extremely uncommon, and it was not until after Cohnheim's work became widely known that reports of the ophthalmoscopic appearances in such cases began to appear more frequently. Gowers, in the third edition of his *Medical Ophthalmoscopy* published in 1890, says in reference to chorioïdal tubercle, "in this Country they appear to be comparatively rare." Even to-day it is not generally known to Clinicians that they have in the ophthalmoscopist an ally who can, in many doubtful cases, give them information which will enable them to make an absolute diagnosis between miliary tubercle and other febrile conditions such as typhoid fever, etc. Ophthalmoscopically miliary tubercles appear as rounded white spots which stand out sharply from the red background of the fundus, and are seen to lie at a deeper level than the retinal vessels. They are usually few in number, from three to six on the average. In some cases only one is seen, while as many as fifty have been observed in rare cases (Cohnheim). The tubercles are of small size, from one-quarter to three-quarters the diameter of the optic papilla (Gowers). Both eyes are, as a rule, affected. The tubercles lie, almost invariably, near the posterior pole of the eye, and hence, unless they are placed very deeply in the chorioïd, they should be readily seen in every case where they are present, for the media are always clear. That such cases are not observed more frequently is mainly because the chorioïdal tubercles cause no symptoms, and if no cerebral symptoms are present it does not occur to the Clinician to have the eyes examined. Again, according to Stricker, tubercles may develop in from twelve to twenty-four hours, so that repeated examination is necessary to exclude them.

A negative observation is of no value, but a positive finding enables one to diagnose general miliary tuberculosis. From the point of prognosis, too, a positive finding is of great value, since the chances of recovery in miliary tuberculosis are exceedingly slim.

A short account of two cases, which were seen at the Montreal General Hospital during the past few months, will prove even more convincing than the foregoing statements.

*Case I.*—On March 12th, 1906, E. B., a farmer, 33 years of age, was admitted to the Medical Ward under Doctor Finley, complaining of shortness of breath and cough. The case was diagnosed pleurisy with effusion of the right side, and this diagnosis was confirmed by the aspiration of a considerable quantity of fluid from the pleural cavity on the following day. Fluid was again aspirated on the 17th of March

and on the 25th of April. Doctor Duval was unable to find tubercle bacilli in any of these three samples of pleural fluid, and a similar negative result was obtained on examination of fluid from a lumbar puncture. The sputum was repeatedly examined for tubercle bacilli without success. On April 27th a guinea pig was inoculated with some of the pleural fluid, and when killed on May 23rd showed definite signs of tuberculosis. On May 25th the patient began to show signs of cerebral irritation, and for this reason I was asked to examine the eyes to see if tubercles could be seen. On May 28th I examined the eyes with the following result,—Media clear in both eyes, optic discs normal. In the inferior nasal quadrant of the left fundus two small white rounded masses could be seen in the chorioid. None could be found in the right fundus. Diagnosis, miliary tubercle of the chorioid, left eye. The patient died on June 4th with pronounced symptoms of meningitis. No post mortem examination could be obtained.

*Case II.*—On September 17th, 1906, H. D. entered the Medical Ward under Doctor Molson. He had well-defined symptoms of typhoid fever, gradual onset, persistent high temperature, rose spots on chest and abdomen, palpable spleen, with a positive Widal reaction. Beyond the fact that the period of elevated temperature was unduly prolonged, the case presented no unusual features until early in November when the patient began to complain of headache and, also, of cough, with scanty expectoration. On this account his lungs were examined on November 5th, and an area of slightly impaired resonance was found at the apex of the right lung. The sputum was examined on the same day for tubercle bacilli with negative result. On November 13th the patient became drowsy and the headache became much more severe. The pulse became slow (60) and the head was turned to the left side. In the course of the next twenty-four hours paralysis of the right half of the body developed. On November 14th I examined the eyes with the following result,—Media clear, both optic nerves normal, in each eye there is a single miliary tubercle. At midnight the patient became unconscious and died at 5 P.M., November 15.

An autopsy was performed on the following day with this result:—Pigmentation of Peyer's Patches; Old adhesive pleuritis; Pyelitis; Miliary tuberculosis of the lung, liver, kidney, meninges and chorioids.

In the first case, while the positive result from the inoculation of the guinea pig proved that the pleurisy was tubercular, yet it was only the finding of miliary tubercles in the chorioid that showed that the patient was suffering from miliary tuberculosis.

In the second case, the miliary tubercles in the chorioid were the first evidence of tubercular infection, and by their discovery it was possible for the clinician to make a diagnosis of general miliary tubercle in a hitherto doubtful condition.

My object in bringing these two cases before you is to show how useful the ophthalmoscopic examination of the eyes may prove to be in cases where there is any reason to suspect miliary tuberculosis.

## THE QUALITY OF MILK: WHAT CAN BE DONE TO IMPROVE IT.

BY

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In spite of man's ingenuity it is impossible to elaborate a product which can replace good cow's milk for children's food. The following statistics of infantile mortality show the danger of using impure milk, and the great need of improving its quality.

In the "*Revue d'Hygiène*," M. Bertillon reports as follows: — In France, during 1902, sixteen per cent. of newly born infants died during the first year. In Germany, the death rate of infants was 22.6 per cent. in 1894, and 27 per cent. in 1901.

Mr. Bockh director of Statistical office in Berlin, states that the average death rate of children fed exclusively on cow's milk was 6.18 times higher than those getting the mother's nursing. In the case of those fed on commercially prepared food the proportion was 14.75 per cent. and infants fed partly on mother's and partly on cow's milk was only 6.56 per cent. higher than those getting only mother's milk. Two million children are yearly born in Germany; one-half or perhaps two-thirds of their number are probably fed artificially, hence 150,000 die every year, victims of impure milk.

During the three wars which resulted in the present German empire 56,000 men were killed. This loss is quite insignificant as compared with that caused by infantile mortality. Allow me to include some more facts concerning infantile mortality in some American cities and also in Montreal: Average infantile mortality in Philadelphia, 32.21 per cent.; Boston, 31.27 per cent.; New York, 36.19 per cent.; Providence, 34.44 per cent.; London, 36.02.

In Montreal the average population in the decade, 1890-1900 was 247,961; the average general mortality during the same period was 6,028; the percentage of mortality of children under 5 years of age

was:—French Canadians, 62.34 per cent.; Catholics of other nationalities, 41.00 per cent.; Protestants, 41.17.

In such American cities, as Boston, New York, Philadelphia, great efforts are made to protect the public against the deleterious effects of poor milk. They are very particular about its richness; in fact, they impose heavy penalties on those who are caught practising adulteration, and examine it closely to ascertain the extent of its bacterial, faecal and other forms of contamination. In those cities a close control of milkmen and milk producers, is exercised, and the outcome of this good work shows that infantile mortality is about one-half of that in some parts of Montreal.

In 1905, I made 30 bacteriological examinations of the milk sold by milkmen in Montreal and the average result was 987,917 bacteria per cubic centimetre. The maximum number was 4,975,000 and the minimum was 171,429 germs per cubic centimeter.

Last year, 1906, out of forty bacteriological analyses of the same class of milk, ten samples contained more than one million germs per cubic centimetre, the largest number of samples had over 500,000 and only three or four gave a count of less than 100,000 bacteria per cubic centimetre. From the above figures, can we wonder, at the extent of infantile mortality in Montreal.

**INTOXICATION BY MILK:**—Flügge and Lubbert have demonstrated that milk intoxication is not only due to the action of pathogenic germs which may accidentally affect milk, but to that of all micro-organisms which are found in that product, and tend to transform it into a poisonous food, entirely unfit for children and even adults, particularly when such microbes are allowed to grow in large numbers. Hence the great importance of using only fresh milk, cooled at the source of production, and held in that condition until delivery.

It is difficult to know whether milk is fresh or not, because its bacterial contents cannot be ascertained before two days after securing a sample. We could not, therefore, stop at once the sale of suspicious milk, but so soon as we find that the product of such and such a milkman is rich in bacteria, we can prevent the future consumption of that class of milk.

Milk having no special aroma is by some people considered as suspicious. On that account it is often scented with stable flavours and the addition of faecal matter. The great need of domestic science explains the scandalous abuse of which consumers are the unwilling victims. An immense amount of educational work remains to be done in that respect.

Here legislation is insufficient;—it could not entirely replace the good advice of doctors, of benevolent women, emissaries from humanitarian



societies. It is to such noble and timely interference that the discomfort of poverty is not further increased by sorrow and death in many destitute families.

**FALSIFICATIONS:**—"Business is business," and those in the milk trade are there for the purpose of gain only. The less work, and trouble about milking and care of milk the greater the profits. Milkmen are not supposed to look specially after children's health, it is no matter to them how many may die, provided they make money.

There are some honest milkmen, striving to do their best to deliver a fair article; but unfortunately they are the exception. We must protect these against unscrupulous and dishonest competition from careless milk vendors.

For a number of years we have sought to prevent milk adulteration. Instruments and mechanical contrivances of various kinds have been invented in the hope of checking such nefarious practices. One of the first was the lactometer, made for the purpose of determining the density of milk which shows a specific gravity of 1029 to 1033 when unadulterated. If the density stands below 1029, the milk is supposed to have been watered; and again, when it goes above 1033, we conclude that it has been skimmed, unfortunately we relied too much on such means of defence. Milkmen secured lactometers and use them to hide watering. When, after dilution, the density became too low, and the colour of milk too blue, they rectified its appearance by adding to it a quantity of salt and of brown sugar. Salt gave the product its required density, and sugar an apparent richness in cream. Therefore, the lactometer instead of protecting the public became in reality a baneful means of hiding fraudulent manipulation. Later on came the Babcock method of ascertaining the fat contents of milk. At about the same time, it was thought advisable to standardise milk—solids including fat.

Some cities called for 12 per cent. total solids, and 3 per cent. of fat. Montreal now requires 3.25 per cent. of fat as well as 12 per cent. total solids. Hence, all milk which did not contain 3 per cent. of fat was considered adulterated, and any milkman caught selling such a product was liable to a fine, which in my opinion was far too small for those who made a regular practice of watering and skimming, in spite of repeated condemnations.

We ought to be lenient in the case of a first offence. It is known, that in some cases milk is naturally poor in fat. It may contain, say 2.5 per cent., and at the same time, be rich in other solids. Such milk is more valuable for children's food, than the product containing 4 per cent. of fat, but otherwise deficient in caseine, phosphate, etc. The first

product, although a fairly good one, would be condemned, and the second, whilst poor would be approved. With the Babcock test and milk standards, we thought the end of our troubles had come. But milkmen were again equal to the situation, and made use of the new machine to further their own ends. They reasoned and proceeded as follows:—Municipal ordinances call for 3 per cent. of fat, ours contain four per cent. We will simply add to it water enough, to reduce the fatty contents to about 3.25 per cent. and the milk will still stand above municipal requirements.

**BACTERIOLOGY AND MILK CENTRIFUGATION:**—Then bacteriology coming to the rescue of hygiene, revealed to the world the great extent of milk pollution, and Boards of Healths at once established bacterial standards condemning milk containing over 100,000 bacteria per cent.

We thought then, that the dishonest milkmen were caught, at last; but no, they at once proceeded to originate other means of evading the law. They began to clarify milk by the use of a centrifugal apparatus running so slowly that cream separation would be incomplete, but in such a way as to leave a large portion of the bacteria amongst impurities adhering to the sides of the machine.

By this treatment, they succeeded in delivering to their customers milk containing less bacteria than the quantities allowed by municipal regulations, but, this product remained unsound on account of its poisonous properties and did not keep any longer than ordinary milk. Hence, during the last 25 years we have striven hard to find some effective means of inducing milkmen to produce and deliver sound, clean milk, and I am sorry to say that so far, the results are far behind our expectation. Each effort, made either by boards of health, or scientific commissions to attain this most desirable object has been checked by similar efforts made by dishonest milkmen, so as to keep a market for the sale of their unclean and adulterated products. I say dishonest, because fortunately we have some honest men in the trade, well-disposed to do justice to consumers, but, unfortunately, their milk sells at the same price as the worst of their neighbours.

Milk dealers are intelligent, they understand that the quality of milk is to them a question of dollars and cents. Let us give them a higher price if needed, but let it be understood that it must not be adulterated, and that it be rich in fat and other required elements.

Like other men they are willing to make an honest living, but when conditions are placed in their way, which makes it impossible to do so, they will likely find some way of keeping their families out of the most pressing needs. They must stand the struggle for life.

It is not my intention to belittle the value of the lactometer, the Babcock machine, and the bacterial tests. They are all useful means of defence, but I simply wish to show the deficiency of these various testing methods, and draw your attention to the fact that dishonest milkmen will, in spite of inspection, succeed in evading the law, and in selling their fraudulent goods.

**METHODS OF INSTRUCTION:**—Furthermore, I believe that well-understood methods of instructions are the best means of securing desirable improvements. For this purpose, we must have more educated, tactful, and otherwise well-qualified inspectors. Let them be educators instead of policemen.

Milkmen are as a rule hard-working people and their profits are not usually large. Unfortunately, many of them believe that success depends not so much on good milk, but on their ability to hide its defects. Let us show them, that if they spent the same energy in securing good, roomy, well-lighted and ventilated stables, well-fed and clean cows, giving large quantities of good milk, they would secure better financial results for themselves, and help greatly to reduce infantile mortality.

I repeat, that the great battle for good milk must be fought in the field of instructions and of moral suasion, but at the same time we must not neglect such controlling means as science has placed within our reach. They must be used for correction. Yet, a corrective measure is always provoking to mankind and particularly so, when its pressing needs are ignored.

**THE PRICE OF MILK AND ITS NUTRITIVE VALUE:**—If it is necessary to increase the price of milk a cent or two, to secure a better quality, let us do so; milk is to-day the cheapest of all food considering its nutritive value, compared with the price of fish, meat, eggs, etc. It could, therefore, stand a reasonable increase.

**BACTERIOLOGICAL CONTROL AND MILK INSPECTORS:**—Bacteriology is to-day one of the best means of control, and we must use it as much as possible. During a recent communication, Dr. Dumbar, an eminent bacteriologist of Dresden, showed that, when proper measures of cleanliness and refrigeration are used, even if transportation requires a few hours, milk at the time of delivery need not contain any more than 20,000 germs per cubic centimetre. Of course, the cans must be properly cleansed, the milk cooled, etc. But in order to bring about such desirable results, we must have a sufficient number of inspectors, known to be qualified.

**ORGANISATION AND LEGISLATION:**—In order to determine the purity of water, it is not sufficient to know its bacterial contents, we must

inspect its source, its course, and intake. So it should be for milk. The control should start from the source of production, and be followed up step by step until its delivery to the consumer.

So far, Montreal is the only city in the province of Quebec where a milk control exists. This is hardly sufficient. We should, by legislation take the means of extending proper milk supervision all over Canada. This would be a great help even to butter and cheese factories.

I therefore appeal to the good will of all fair-minded and progressive men, to humanitarian societies, pure milk leagues, to legislators and governments for help, in furthering this cause which is that of humanity. We must also provide for education in domestic science, for fear that a part of this good work might be lost. It looks as if infantile mortality was not only the results of impure milk, but also of the irrational education which many mothers have so far received.

In summing up my remarks allow me to make the following suggestions:

1. That Governments be induced to organize proper means of controlling milk supplies, in all parts of Canada, and of preventing the sale of impure milk.

2. That railways be asked to provide refrigerated cars for milk transportation.

3. That all milk producers be requested to secure a permit from municipalities where they intend to sell or ship milk, that their dairies be properly inspected before such a permit be issued, and that a proper control over the business be instituted.

4. That, although it may be preferable to be lenient to some milkmen for first offence, those who refuse to amend should be most severely punished, and driven out of the trade.

5. That the price of milk be increased one or two cents a quart, if it will lead to the production and sale of a clean product.

6. That an active standing commission, composed of medical men, hygienist, prominent business men, and legislators, be appointed for the purpose of suppressing the sale of impure milk, and consequently infantile mortality.

### PURULENT CONJUNCTIVITIS: THREE CASES WITH DIFFERENT AETIOLOGICAL FACTORS.

BY

HANFORD MCKEE, B.A., M.D.

Montreal.

*Case I.*—Male, aged 59, seen on the fourth day after his eyes had begun discharging. Both eyes were involved. There was marked swelling of the lids, œdema of the bulbar conjunctiva, with a profuse

purulent discharge,—a well marked picture of gonorrhœal ophthalmia. A smear prepared from the conjunctival pus showed gonococci, chiefly within the leucocytes. A tube of blood agar inoculated gave a pure growth of the gonococcus.

The patient was put to bed and treated as follows: Warm boracic fomentations every half hour; cold compresses of boracic solution constantly. Solution of argyrol, 25 per cent., smeared over conjunctival surfaces three times daily.

The infection was a severe one, and ran a course of over two weeks. Upon the eleventh day there was seen a small point of infiltration at the outer corneo-sclerotic margin of the right eye, but fortunately this did not go on to ulceration, and patient made a perfect recovery.

*Case II.*—Female, aged 18, seen on the third day of the disease. Both eyes were involved. There was swelling of the lids with œdema of the bulbar conjunctiva, severe photophobia with profuse purulent discharge,—a picture very similar to Case No. 1.

A prepared slide showed the Koch-Weeks bacillus. The treatment ordered was cold compresses of boracic solution constantly, frequent irrigations of the conjunctival sac with warm boracic solution, drops of solution of argyrol, 10 percent., three times daily. The case made rapid progress and on the fifth day following the eyes were so well that treatment was dropped.

*Case III.*—Female, aged 20. This patient was a nurse to a family which went to the country on Friday, and returned the Monday following. On the Monday morning her eyes became suddenly inflamed, and began discharging. Seen Monday afternoon both eyes were involved. There was marked swelling of the lids with œdema of the conjunctiva and profuse purulent discharge. She complained too of severe pain in the eyes.

A prepared slide showed diplo-bacilli. She was treated with irrigations of the conjunctival sac, with a solution of sulphate of zinc,  $\frac{1}{4}$  gr. to the ounce. She made rapid progress and one week later was allowed to assume her duties with the children of the family.

There is nothing new that I have to offer on gonorrhœal ophthalmia—, its clinical picture, with its varying course and results, are well known. I have included this case only for comparison, and in no better way can I convey to you the clinical picture of all three cases than by citing this case of gonorrhœal ophthalmia. It is not generally known that Koch-Weeks, and Morax-Axenfeld conjunctivitis, may go to such extremes. They both vary greatly in their clinical picture. Koch-Weeks conjunctivitis may start with one member of a household as a

mild case of "pink-eye," but going through the house, and increasing in severity as it goes, it becomes a purulent conjunctivitis of a severe type.

Morax-Axenfeld conjunctivitis varies even more widely. The idea that Morax-Axenfeld conjunctivitis is a subacute blepharo-conjunctivitis is, in the majority of cases, a wrong one. This form of conjunctivitis is very prevalent here, and while the classical form of subacute blepharo-conjunctivitis is sometimes seen, in the majority of cases it varies from mild hyperæmia of the conjunctiva to severe purulent conjunctivitis.

The course of the disease in these three cases is worth noting; and with the treatment and results is no less interesting than finding purulent conjunctivitis set up by three such different organisms as the gonococcus, the Koch-Weeks bacillus, and the diplo-bacillus of Morax-Axenfeld.

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The name of the Journal of the Association of Military Surgeons has been changed to *The Military Surgeon*. This publication has been in existence for six years, and was the first in the English language devoted especially to military surgery. Probably no other six years in the world's history has yielded more material for the military surgeon. With all appreciation of the trials of an editor, we trust that the next six years will be more meagre.

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The Saalfield Publishing Company of Akron, Ohio, announce the completion of the twelve volumes of the Doctor's Recreation Series, of which mention has frequently been made. The twelfth volume is of especial interest, as it is a biographical dictionary of practitioners in all parts of the world.

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W. B. Saunders Company, of Philadelphia and London, have just issued a revision of their illustrated catalogue of medical, surgical, and scientific publications. The descriptions of the books are full, and the specimen illustrations are representative of the pictorial feature of the books from which they are taken. The authors listed are men of recognized eminence in every branch and specialty of medicine.

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The American Journal of Dermatology and Genito-urinary Diseases has been enlarged, the price remaining the same. General departments have been added, which increase the efficiency of the publication.

THE

# Montreal Medical Journal.

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

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Remittances, advertisements or business communications are to be addressed to the Montreal Medical Journal Co., Box 273; all others to the Managing Editor, 216 Peel Street, Montreal. All communications intended for insertion in this Journal are received with the understanding that they are contributed exclusively to this Journal. A limited number of reprints of articles will be furnished to authors at cost price, if a request to that effect accompany the manuscript.

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## THE PROFESSION AND BUSINESS.

The British Medical Association has now a proper business management. Before the first of the year the members received from the general secretary a circular letter in which they are informed that the annual subscription falls due on the first of January. "As a result," the letter continues, "of strong representations made during the Toronto Meeting, and to save you as much trouble as possible, a bill has been drawn for the amount due from you. This will be presented in January by the Bank of Montreal for your kind acceptance."

We can well understand the necessity for eliminating from the subscription list of the *Journal* names of persons who will probably not pay; but we are not informed if members who refuse the draft thereby remove themselves from membership. At every meeting members join the Association for that occasion alone, their only desire being to "scramble at the feast." In Montreal in 1907 it was so, and the Association

suffered a loss of several hundred pounds, by their failure to pay the fees for succeeding years, during which they received the *Journal*. The better way, we think, would be to apply the strict rule, and at the end of the year, after due notice, remove the names of all who are in arrears. If those who refuse the draft are not removed from membership, no good will result. If all are removed, the good will suffer with the bad; for a member may object to pay a draft which he did not authorize, on the ground of principle and not from mere contumaciousness.

We are obliged to confess that, at the Toronto meeting, we did not discover any great clamour for this innovation, nor does a careful search in the proceedings as published to this date disclose any particulars as to the source of these "strong representations." It would have strengthened the position of the general secretary, if he had indicated where an account of this propaganda might be found.

In the absence of such specific information we can only express the general opinion that the persons who made these strong representations were singularly unwise. We have nothing but blame for members who can conveniently pay their twenty-five shillings in advance, and do not discharge their legal obligation; and pity for those who find it inconvenient to do so. Yet membership in the Association is voluntary, and we fear that the exigency of the demand will tempt some members into the rash and foolish step of withdrawal.

It will be hard to convince these fractious members that the procedure is designed primarily "to save them as much trouble as possible." They have experienced a similar solicitude on the part of tradesmen who were not entirely disingenuous in their proffer of accommodation. If the plea had been put forward that money was urgently needed for managerial, and clerical, expenses, for the heavy cost of travelling, for the publication in the official *Journal* of much material which it is an obligation to publish, these members might assent with alacrity to the probable truthfulness of the statement.

The Executive of the Canadian Medical Protective Association heard similar "representations" at the Halifax meeting in 1905, and "drew" upon the members for three dollars which, by some obscure process of reasoning, they thought was a more convenient amount to remit than the previous fee of two dollars and a half. It does not appear that the members at large were of that opinion. The result of this experiment by the general secretary may well form a subject of enquiry at the next annual meeting.

We have observed that this spirit of business is at work also in the management of the *Journal*. In the issue of December 15th, 1906, on



advertising page 59, there are thirty "warning notices," such as we read in those organs of public opinion issued by unions of plumbers, house-smiths, and miners. We may pass this by, for we are not in the habit of going to the advertising pages of medical journals for standards of ethics. What appears in the editorial columns, however, is fair subject of comment. In the same issue at page 1735, there is an account, with editorial comment, of "a hot discussion" which took place before the Halifax Board of Guardians. The conclusion of the article reads as follows:

"Some said they themselves belonged to trade unions, and that the medical profession in taking up these matters were perfectly right, and the action in this particular case in every way justified. One went so far as to add that if any member of the profession had accepted the post, after warning notices had been issued and knowing that the pay had been cut down, the action would have been that of an ordinary blackleg. The incident is quite sufficient by itself to prove the value of the warning notices, and to show also that in attempting as a united body to safeguard the interests of its members the medical profession is taking a course which business men regard as sensible and just."

We are willing to let these sentiments stand as the exact contrary of the spirit which is immanent in the ethics of the medical profession. We are banded together for service, not for self-aggrandizement. The black-list is not a weapon for our hands. The profession is the absolute antithesis of business. When "business men regard as sensible and just" our conduct, as measured by their standards, then we are lost. It is by saving our life by business methods that we shall lose it.

So long as we retain this high position we are upon safe ground. The Courts are beginning to scrutinise us closely, for we are in possession of special privileges. If we abandon our high tradition of unity in service for corporate and individual advancement, we will become proper subject for judicial enquiry. Only last month the Divisional Court, annulled the decision of the Ontario Medical Council, under which the name of Dr. Crichton was stricken from the roll for—as we still think—shameless advertising. An organ of professional opinion which speaks in this way upon the very essence of professional ethics, cannot forever be expected to carry conviction in its adjudication of those controversies which appear to be arising continually in England between A. and B., between partners, between consultants and practitioners, between patients and the public.

It is all very well to strain out gnats, to give tithes of mint and cummin, to extract motes; but only so long as a camel is not swallowed, the

weightier matters of the law not neglected, and those beams removed, which totally obstruct the vision. And finally, whilst we are in the present frame of mind, we may add that, if the attitude of the Association is correctly indicated by the extract quoted, we fear that some members will not think it advisable to pay the bill of twenty-five shillings which, the general secretary informs us, "will be presented by the Bank of Montreal."

### THE PROFESSION AND THE LAW.

A man may be a judge, and yet be as ignorant of medicine as the casual man in the street. Indeed there is some evidence that such is the case. But when a judge speaks from the bench upon the law as it applies to the profession of medicine, we are bound to listen to him, and to govern ourselves by what he says. A recent case in Ontario afforded the judges an opportunity to expound the law.

The Ontario Medical Council took notice of the conduct of Dr. Alexander Crichton, and struck his name from the roll of those legally qualified to practice medicine. As we understand the case, Dr. Crichton advertised in the newspapers that he had discovered an infallible remedy for a distressing disease, and offered to supply it at a certain price. The profession, speaking through the council, said that, if he had discovered such a cure, he should make it public for the good of all sufferers, as has been done in the case of the discovery of the remedy for diphtheria, and for the prevention of small-pox, malaria, and typhoid fever. They said, in effect, what has been said these two thousand years, that a man cannot be a member of the profession, and a tradesman, at the same time. Dr. Crichton was free to choose the narrow path of professional honour, or the wide road to commercial affluence. He chose the latter course. He was cast out. He appealed to the Courts, and was restored.

It should be clearly understood that the Court did not subvert the principle which we have enunciated, that a man cannot be a tradesman and a member of a profession at the same moment. The Court made it clear, however, that the Council must act according to the forms of law, and that also is a sound principle. Indeed there is nothing in the judgment to prevent the Council from proceeding against Dr. Crichton again. *The Toronto Globe* of December 18th, deals with the case so sensibly that its editorial article is worth reproducing:—

"The action of the Ontario Medical Council in striking Dr. Alexander Crichton, of Carleton, from the roll has been reviewed by the Divisional Court, and the decision has been annulled. The chief reason for this

is that the conviction was for offences different from those charged, that the Discipline Committee made a decision instead of reporting facts, and that the trial was not conducted with proper safeguards for the accused. The finding does not prejudice future actions. The interest excited when trades unionists use their negative power and refuse to work with someone who is regarded as hostile explains the wide-spread attention given to the case of Dr. Crichton, against whom the Medical Council used its positive power in taking away the right to practise his profession. The punishment is severe, even terrible, in its possible results, and nothing could be more likely to awaken public sympathy. That such sympathy is likely to obscure the special merits of any case is a fact that should make the Medical Council extremely cautious in exercising the powers conferred on it for the protection of the public. To some minds, to prohibit a man from earning his living in a profession or calling for which he has qualified himself would seem like a cruel and unnatural punishment that should not be inflicted under any circumstances.

The attitude of the medical profession is easy to understand. That profession has no secrets. Every discovery by its members is given to the world. All the results of the most careful and painstaking investigation are freely disclosed. To keep back anything or to use a secret remedy is to the profession disgraceful. The world owns all medical discoveries, and to retain them for personal profit is fraudulent. For this truly altruistic attitude the world owes the medical profession a deep debt of gratitude. A monetary estimate of this debt may be made by considering what fortunes could have been made out of recent discoveries if kept secret and exploited for private gain.

As to advertising, it seems to be regarded as fraudulent because it involves positive promises and inclusive claims which are not warranted by the experience of the profession. The man who promises that a certain result will follow the taking of a certain remedy does what physicians of the widest experience and deepest learning would not think of doing,—is rushing in where angels fear to tread.

Men distinguished in the medical profession are the best judges as to the propriety and honesty of the conduct of brother practitioners. But whether they are the best qualified to sit in judgment, to exercise authority, or to pronounce a sentence of expulsion is an open question. They are human in spite of their free gift of discoveries to the world, and when they attempt to sit in judgment on a brother the complicated influence of their various human interests may create the need of a disinterested tribunal. Power is always a dangerous thing: unless the

power of the Medical Council is exercised with extreme care, it will, of necessity, be curtailed."

### INSPECTION OF FOOD.

A Bill respecting the inspecting of meats and canned goods—to give it the official title—was introduced in the Dominion House of Commons in January. If it pass into law in its present form, there will be no-ground of complaint that the provisions are not sufficiently stringent. One important newspaper which usually voices the sentiments of the established order of things makes the plaintive comment that the Bill gives to officials and minister powers of destroying industries. This is precisely what it is intended to do; and if it does that, it will have fulfilled its purpose. The laws against burglary are intended to destroy the industry of house-breaking; and the manufacturers of spurious coin may well complain that the laws against counterfeiting tend to destroy their business.

The Bill is composed of twenty-seven sections which fall under the headings of Inspection of Animals, Inspection of Packages, Penalties, and Powers of Inspectors. No animal shall be allowed to enter the parts of an establishment where slaughtering is carried on, unless it has undergone inspection and been found to be healthy and fit for food. Every animal affected, or suspected of being affected, with contagious or other disease, shall be slaughtered under the supervision of the inspector and be disposed of as provided by the regulations. The minister may order the inspection of the carcasses of all animals intended for export and every carcase, found to be fit for food, shall be marked by the inspector.

All articles prepared for food and packed in cans or packages, shall be subject to inspection during the whole course of preparation and packing; and all such packages shall be marked or labelled by the inspector, provided the law has been complied with. The inspector may refuse to inspect or mark articles in any establishment where the sanitary conditions are not in accordance with the regulations.

The penalties are heavy and punishment swift. An establishment may be summarily closed. Exporters are forbidden to handle food-stuffs unless they have been inspected; and clearance may be denied to their vessels.

The powers of the inspectors are large. They may enter, and arrest without warrant; and upon their evidence an offender may be convicted and imprisoned up to the term of two years.

Finally, the inspectors themselves are provided for, as the courtesies contained in the Criminal Code of 1892, respecting the bribery and cor-

ruption of officials or employees of the Government are made to extend to them.

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On December 14th 1906, Mrs. Featherston Osler, celebrated her one hundredth birthday in Toronto. Among her six children are the following distinguished men: the late B. B. Osier, Q.C., a member of the Canadian bar; Dr. William Osier, Regius Professor of Medicine at the University of Oxford; Justice Featherston Osier, of the Ontario Court of Appeals, and E. B. Osler, M.P. In addition to her six children Mrs. Osler is the grandmother of twenty-six and the great-grandmother of twenty-one. Mrs. Osler has lived during the reign of five English sovereigns, a fact commemorated by the birthday cake which graced the festivities. These are George III. George IV. William IV. Victoria, and Edward VII. It is a matter of congratulation that Mrs. Osler, in spite of her one hundred years, remains well in all respects, except for a slight degree of deafness.

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Dr. John D. Cameron died at Montreal General Hospital on January, 5th, 1907, of typhoid fever, after a brief illness. He was born at Caledonia Springs, and received his early education at Vankleek Hill High School, and at the public school of L'Original. In 1889 he came to Montreal. He entered the Medical Faculty of McGill, and graduated in 1893. He was for a year in the Montreal General Hospital, and afterwards a year on the staff of the Royal Victoria Hospital, after which he began general practice. At the time of his death he was assistant gynaecological surgeon at the Montreal General Hospital.

The assemblage which came together at the funeral obsequies in St. Paul's church at half past eight in the morning was a remarkable tribute to the respect and affection in which Dr. Cameron was held by all classes of the community.

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The death of Dr. William K. Otis has made a profound impression upon his associates. At the regular meeting of the American Urological Association, held in New York, the President, Winfield Ayres, officially announced the death of Dr. Otis the Vice President of the Second Section, and called for a report by the Committee appointed for the purpose, to present a memorial on the Association's bereavement. In presenting the report, a member of the Committee said that the set form of preamble and resolutions was deemed inadequate to express their sorrow, and they adopted a new reading in which the sad event is referred to as "Billy's demise." We think the old form is better.

Dr. George Duncan died in Victoria on December 2nd, 1906. Dr. Duncan was born in Russell, near Ottawa, in 1863. He received his early education at the Ottawa Collegiate Institute, and for a number of years taught school in Ottawa. He then took a medical course at McGill University, and in the year 1890 went West. Taking up his residence in Victoria, he and his brother, who was drowned in the *Islander* disaster, soon acquired an extensive practice. Some time later he was appointed city medical officer. At the time of the Klondike excitement he, like many other Victorians, became interested in the fabulous wealth which Yukoners were reported to be making and going north, he engaged in practice in Dawson, remaining there until the death of his brother, Dr. John Duncan. He then came south and took up his brother's practice in Victoria city, which he held until he died.

Misery loves company. Therefore it is comforting to us in Montreal to read the following from the *London Lancet* of January 5th:—"To leave streets in such a condition as Piccadilly-circus and Regent street were left on Thursday and Friday is a menace to health and a disgrace to any body of men whose duty it is to keep clean the streets over which they have charge."

Patrons of the Allan Line, and especially of the *Parisian*, will regret to learn of the death of Dr. Charles Neville, for many years surgeon on that favourite ship. Dr. Neville had many friends in Montreal, who will miss his occasional visits.

## Reviews and Notices of Books.

THE DISEASES OF THE NOSE, THROAT AND EAR. By CHARLES P. GRAYSON, M.D., Clinical Professor of Laryngology, Medical Department, University of Pennsylvania. New (2d) edition, revised and enlarged. Octavo, about 550 pages; with 152 engravings and 15 plates in black and colors. Cloth, \$4.00, net. Lea Brothers & Co., Philadelphia and New York, 1906.

Four years have elapsed since the first edition of this book appeared. The second edition is more complete, and contains much new matter. The classification of the different diseases is excellent, and the needless sub-divisions adopted by many contemporary writers on ear, nose and throat works have been happily omitted.

The author holds very pronounced views upon the choice of nasal specula that should be used; and, while we agree with him that some modification of Gruber's ear speculum is useful for the examination of the

nares of children, in adults the bivalve speculum is the more modern instrument, and by its use a more comprehensive view of the nasal field can be obtained. If ordinary care is taken, wounding of the nasal mucous membrane is an extremely rare occurrence. The bivalve speculum can also be sterilized, a fact of great importance both in private and hospital practice. The chapter devoted to the etiology of chronic rhinitis makes interesting reading, and would do credit to Kraft Ebbing, or Havelock Ellis.

In the treatment of deflections of the nasal septum, although the submucous operation has been described, sufficient stress has not been laid upon the advantage of this operation, namely, (1) the operation can be done under local anæsthesia; (2) the after-treatment is simple, and there is less likelihood of nasal or aural complications; (3) the comparatively short duration of the after-treatment. The general results reported are more satisfactory than any operation yet devised for the correction of septal deflections. The indications for the Killian operation on the frontal sinus have been carefully described and illustrated, and the surgical treatment of the antrum of Highmore and the other accessory nasal cavities has been ably dealt with. The author has, indeed, been fortunate not to have met with a case of primary or secondary hæmorrhage following tonsilotomy. The compression tonsilotome of Mickulicz has not been described or illustrated, although it is, we think, an indispensable instrument in the armamentarium of the specialist. In the chapter on tubercular laryngitis the writer has not mentioned the use of formalin, either in the form of a spray or topical application. We have found this drug particularly beneficial in such cases. Killiam's device for examining the trachea and bronchi is described and depicted both for superior tracheo-bronchoscopy and inferior bronchoscopy. This device, the author points out, represents an enormous advance over all instruments for examining the deeper air passages, as it "provides us with a means not only of directly inspecting the trachea and larger bronchi, but of carrying out certain surgical procedures within them." That portion of the book devoted to the diseases of the ear and intracranial complications, secondary to aural disease has been ably presented, with the possible exception of the surgery of the labyrinth, which has not been considered. The final chapter of the work is devoted to medical formulæ, many of which will be found useful to those interested in ear, nose and throat work.

We can heartily recommend this book to the student, general practitioner and specialist. The author has had a wide and varied experience in ear, nose and throat work, and is a pleasing and graphic writer.

The illustrations are numerous and well executed. The value of the book is enhanced by good paper, and clear type. R. H. C.

**SURGERY: ITS PRINCIPLES AND PRACTICE.** In five volumes by 66 eminent surgeons. Edited by W. W. KEEN, M.D., LL.D., HON. F. R. C. S., LOND. and EDIN., Professor of the Principles of Surgery and Clinical Surgery, Jefferson Medical College, Phila. Vol. 1: Octavo of 983 pages, with 261 text illustrations and 19 coloured plates. W. B. Saunders Co. Philadelphia and London, Canadian Agents L. A. Carveth and Co. Toronto, Ont. 1906. Per volume: Cloth, \$7.00 net, half morocco, \$8.00, net.

The first volume opens with a sketch of the history of surgery by Dr. J. G. Mumford. The subject, of itself, is interesting and the writer has made it more so by his happy style of presentation. It includes a short narrative on the history of American surgery, and ends with a sincere tribute to Lister. The average student knows little of the history of medicine, which is to be regretted, for he loses much by his lack of knowledge of the lives of those men whose researches have made possible the surgery of to-day. Surgical Physiology is dealt with by Dr. George W. Crile, who has done such excellent work in this subject. The correct interpretation of clinical phenomena and their proper treatment are put before us on a sound scientific basis. Dr. John C. Da Costa, Jr., contributes a concise and helpful chapter on the examination of the blood. Dr. Ludvig Hektoen presents the theory of infection and immunity, a rather weighty subject, in a lucid manner. The chapter on inflammation is written by Dr. J. G. Adami. The essential features of his larger contribution on this subject are clearly described, and the various processes well illustrated. The treatment of inflammation is presented in its broadest principles, while due cognisance is taken of the recent work of Bier and Wright. Suppuration, ulceration, and gangrene are well described and illustrated by Dr. Leonard Freeman. An excellent article on the process of repair is given to us by Dr. Francis Carter Wood, Dr. Charles Harrison Frayier has handled a diversity of subjects including thrombosis and embolism, erysipelas, tetanus, glanders, actinomycosis, anthrax, and diseases directly derived from animals, insects, and reptiles, in a well balanced and thoroughly up-to-date manner. Traumatic fevers are described by Dr. Eugene A. Smith in a short interesting chapter. Just why scurvy and rickets should be included in a surgical work is not clear, as the treatment described is almost entirely medical. On the subject of surgical tuberculosis Dr. John Chalmers Da Costa writes from the vantage ground of a long and active experience. He regards the Finzen light and the X rays of undoubted value in cases of lupus, but the tuber-



culin treatment as a disappointment, save in lupus. No mention is made of Wright's work which, perhaps, is in a too experimental state to warrant a place among text-book therapeutic measures. Syphilis is taken up somewhat extensively by Dr. Edward Martin, whose work with Dr. J. William White on venereal diseases is so well known and appreciated as to be a guarantee of the excellence of this chapter. Tumours are described by Mr. John Bland-Sutton at some considerable length—nearly 150 pages. The classification and illustrations are practically those of his authoritative monograph on this subject. The embryonic theory is now discarded as an explanation of the origin of cancer, and the various theories advanced receive an impartial consideration. The volume ends with a chapter on wounds and contusions by Dr. G. W. Crile, and includes a discussion on shock and collapse and their appropriate treatment. A most welcome and important step, and one which enhances greatly the instructiveness of the volume is the appending of a bibliography to every chapter, in many instances an evidence of the painstaking care on the part of the author to make his article complete and up to date. The book itself is of a convenient size, the paper and print good, the illustrations quite adequate for the purpose both in quality and quantity and yet not at the expense of the reading matter, a fault not infrequently present in American publications. If this volume is a sample of what is to follow, we can confidently look forward to the appearance of the others with a surety that we will have a work of distinct addition to modern surgery. W. L. B.

**LECTURES ON DISEASES OF THE LUNGS.** By JAMES ALEXANDER LINDSAY, M.D., F.R.C.P. (Lond.), Professor of Medicine, Queen's College, Belfast. Second edition. London: Baillière, Tindall and Cox. 1906. Canadian Agents, J. A. Carveth and Co., Toronto. pp. 509. Price \$3.50.

The reviewer confesses to having received considerable instruction in the reading of Professor Lindsay's book, of which this is a second edition. The earlier edition dealt with diseases of the heart as well, but the present book deals with the lungs only. It begins by a very lucid, clear cut recital of the methods of physical examination: there is a tendency here, it is true, to give the classifications of the original masters of physical diagnosis, Laevuec, Skoda and others, and these classifications are not very useful, but they serve as a foil to the clear dogmatic statement of the author's own belief which generally immediately succeeds.

Following the chapter on physical examination is a discussion of the subject of pulmonary symptoms, and then a moderately full statement

of the various diseases of the lungs: pulmonary tuberculosis comes in for a full discussion, in eight chapters; and the handling of the subject seems adequate; it is true that the climatic chapter is somewhat from the European point of view, as is natural, and deals essentially with continental resorts: the chapter on the prevention of pulmonary tuberculosis contains much useful information on the subject of national measures, and has evidently been well thought upon.

Treatment is dealt with in the case of each disease, and the book is thus rendered a useful one for a practitioner as well as for a teacher; in a word, it may be said that the book is too full of information to be read continually with comfort, and thus has all the more value as a work to consult when one requires a definite piece of information upon diseases of the lungs. It can be heartily recommended.

**A MANUAL OF MEDICINE.** By THOMAS K. MUNRO, M.A., M.D.  
Second Edition. London: Ballière, Tindall and Cox, 1906.  
Canadian Agents, J. A. Carveth and Company, Toronto.

This book of about 1,000 pages of small size, and large, excellent type, is an effort on the part of the author to synopsise the essential features found in larger textbooks. It is thus practically a compend, and for those who find such works useful, the book is presented in a suitable form. No subjects are dealt with in detail. Thus, for example less than fifty lines of this large-typed page deal with gastrectasis; pulmonary tuberculosis is dismissed in sixteen pages, the physical signs occupying one page and the complications eleven lines. Perhaps the book is suitable chiefly for those who are anxious to acquire in a short time a general theoretical knowledge in a superficial way of the essential outlines of medicine.

**DISEASES OF THE EYE AND THEIR TREATMENT.** By HENRY R. SWANSY, M.A., M.D., and LOUIS WERNER, M.B., F.R.C.S.I., London, H. K. LEWIS. Ninth edition, 1907.

This well known text-book has undergone a much-needed and thorough revision by Mr. Werner whose name appears as joint author. All the recent advances in ophthalmology have been carefully noted, and a large number of excellent illustrations added without materially increasing the size of the volume. The work, as it now stands, forms an attractive and authoritative manual of eye surgery, and well deserves a continuance of the popularity which it has heretofore enjoyed.

**A MANUAL OF OTOLOGY** By GORHAM BACON, B.A., M.D. Fourth edition revised and enlarged. Philadelphia: Lea Brothers & Co.

The fourth edition of this popular manual forms an even more pleasing volume than its predecessors. The arrangement and the printing

and illustrations are excellent; and the concise and reliable exposition of otology of previous editions has been revised so as to include the more recent advances in this field. The work can be cordially recommended especially for students of medicine for whom it is especially intended.

EPITOME OF PATHOLOGY. By John Stenhouse, M.A., B.Sc. (Edin.), M.B. (Tor.) and John Ferguson, M.A., M.D. (Tor.), The Medical Epitome Series, 12mo., 285 pages, with illustrations. Lea Brothers and Company, Philadelphia and New York. Cloth, \$1.00 net.

We do not love cram books nor the systems of education and examination that give rise to them, but just as our social system makes it that we have the poor always with us, so do we suspect it to be inevitable that intellectual poverty must continue to be pandered to by works of this nature. Of its class this impresses us as being distinctly good. Finding our own classification of tumours given in detail we may be prejudiced in its favour, but before making this discovery we had noted its clear, direct style and its attempt at a proper balance between general and special pathology. Paper, type, printing, and arrangement are all excellent.

J. G. A.

GENITO-URINARY DISEASES AND SYPHILLIS. By HENRY H. MORTON, M.D., clinical professor of Genito-urinary diseases in the Long Island College Hospital: Genito-urinary surgeon to the Long Island and King's County Hospital, etc. 499 pages. F. A. Davis & Co., Philadelphia.

Throughout this, the second edition, the author has evidently endeavoured to keep the practical side in view, without however, neglecting its necessary foundation. The book is well written and its contents clearly, though, in parts, perhaps too concisely expressed. The influence of the German school, is evident throughout, and freely acknowledged by the author. Perhaps on this account more prominence, than is usually the case with American and English publications is given to the use of instruments of precision in bladder, ureteral and renal diagnosis, such as the urethroscop, cystoscope, urino-segregators, etc.

The pathological and bacteriological aspects of these diseases come in for almost a fair share of consideration, the details for proper bacteriological diagnosis of various infections being given in an appendix.

Among the changes since the former edition we note more prominence is given to early operation for the hypertrophied prostate. The author

prefers the perineal to the suprapubic route in operation but should, we think, in a book of this kind express some opinion on the present question of sexual impairment after such operation. On the whole the views are conservative.

The staining and examination of the spirochaeta pallida—the so called Goldhorn stain would appeal to us more under Wright's name—receive consideration and the chapter on tuberculosis of the kidney is excellent. Therapeutics appear sound, indeed those drugs and methods as yet not proven receive but little consideration. In discussion of urinary fever we are glad to note that the author considers its origin infective.

There are several coloured plates and numerous illustrations. Some photo-engravings have in our opinion lost much of their usefulness through a too obvious retouching. The arrangement is simple and the index apparently sufficient. A book of 500 pages we can readily recommend to students and practitioners who desire the latest word on genito-urinary matters in a concise and practical form.

R. P. C.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By JAMES M. ANDERS.

Seventh edition. W. B. Saunders & Company, Philadelphia and London, 1905.

This valuable text-book has been much enlarged, and the necessary changes to bring it up to the date of publication have kept pace with recent advances in medical science. The book is already too well known to require the praise which it deserves.

PROGRESSIVE MEDICINE. Edited by Hobart Amory Hare, M.D., and H. R. M. Landis, M.D., December 1st, 1906. Lea Brothers and Company, Philadelphia and New York.

The contents of this volume are Diseases of the digestive tract and allied organs, the liver, pancreas and peritoneum, by J. Dutton Steele, M.D.; Genito-Urinary diseases, by William T. Belfield, M.D.; Diseases of the kidneys, by John Rose Bradford, M.D.; Anæsthetics, fractures, dislocations, amputations, surgery of the extremities, and orthopædics, by Joseph C. Bloodgood, M.D.; and the practical therapeutic referendum, by H. R. M. Landis, M.D. We find scant mention of the valuable work which is being done in Canada towards the progress of medicine.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS. Vol.

xxi.

The present volume contains 58 pages. It will afford a year's reading. There is no better record of medical opinion upon questions, new and old.

THE PRACTICAL MEDICINE SERIES. Edited E. Gustavus P. Head, M.D. Vol. viii. *Materia Medica and Therapeutics, Preventive Medicine, Climatology, Forensic Medicine.* Editors: Drs. Butler, Favill, Bridge, Brown, Moyer, series 1906. The Yearbook Publishers, 40 Dearborn St. Chicago.

This volume covers the ground indicated above for the year, and does it well, considering the space at the editor's disposal. Suggestive Therapeutics, of which one once heard so much, comes in for scant treatment.

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## Medical News.

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### ROYAL VICTORIA HOSPITAL.

The thirteenth annual meeting of the Royal Victoria Hospital was held on the 16th January. The report of the superintendent, covering till 31st December, 1906, was received and read, as follows:—

The number of patients admitted during the year was 3,444, an increase of 351 over the previous year. There were 1,989 free patients, 1,021 public ward patients, paying 50 cents and \$1 per day, and 434 private ward patients; 2,525 were residents of Montreal, and 919 came from districts outside of the city. The total days of hospital treatment aggregated 73,993, as against 71,194 during the previous year, an increase of 2,799 days. The average number of days' stay in hospital per patient was 22.04, as against 23.07 the previous year.

On the 1st January, 1906, there were 191 patients in the hospital remaining from 1905, and during the year 3,411 were discharged, of whom 1,935 were well, 994 improved, 152 not improved, 115 not treated, and 215 died. Remaining in hospital 31st December, 1906, 224.

Of the 215 deaths, 69 took place within 48 hours of admission. The death rate for the year has been 6.30 per cent., or, if those dying within 48 hours after admission be deducted, 4.28 per cent. The highest number of patients in the hospital on any one day was 246 on the 7th December, and the lowest was 174 on the 2nd January; the highest monthly average was 225, in December; and the lowest 190, in July; the daily average for the year being 203, as against 195 for the previous year.

During the thirteen years that the hospital has been in existence, 33,126 patients have been admitted to the wards for treatment:—1894, 1,570; 1895, 1,841; 1896, 2,016; 1897, 2,349; 1898, 2,279; 1899, 2,537; 1900, 2,619; 1901, 2,579; 1902, 2,814; 1903, 2,931; 1904, 3,054; 1905, 3,093; 1906, 3,444.

In the out-patient department the total number of patients treated was 4,329; the number of visits of these patients aggregated 29,403:— Medical, 10,085; surgical, 8,641; eye and ear, 3,853; nose and throat, 5,434; diseases of women, 1,390. The ambulance made 1,066 trips.

The income for the year was \$160,436.09, while the ordinary expenditure amounts to \$130,353.30; the balance of \$30,082.79 being applied in reduction of the indebtedness incurred by the new buildings and other additions.

The total cost per day per patient has been \$1.75; the cost per day of maintaining each person in the hospital—staff, servants, all employees and patients—being 85 cents, and the daily cost of provisions for each person, 21½ cents.

The appointment of Dr. W. F. Hamilton and Dr. C. F. Martin, physicians to the hospital, was confirmed by the governors, and Dr. Francis J. Shepherd was appointed consulting surgeon. The following appointments were made to the staff for the year ending December, 1907:—

Associates in medicine, Dr. Cushing, Dr. Fry, Dr. McCrae; associate in medicine in charge of dermatology, Dr. Burnett; associate in neurology, Dr. Russell; associate in gynaecology, Dr. Goodall; associate in ophthalmology, Dr. Tooke; assistant pathologist, Dr. Klotz.

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#### WESTERN HOSPITAL.

The annual meeting of the Western Hospital was held January 15th. The report of the medical superintendant stated that on 1st January, 1906, there were 24 patients in the hospital from 1905. There were 624 patients admitted during the year, as compared with 524 the previous year, an increase of 100; 567 were discharged; 22 died and 35 remained in on 31st December; 316 males, 308 females, 243 Roman Catholics, 355 Protestants and 26 Jews; 209 medical, 328 surgical, 87 gynaecological; 322 free, 58 paying 50 cents per day, 140 semi-private and 104 private; 552 from the city and 72 from a distance. The largest number of patients in the hospital at any one time was 37, on 26th and 27th September and 11th October, and the smallest, 22, on 25th March. Average daily number was 29. The death rate for the year has been 3.5 per cent. Deducting 12 deaths occurring within 48 hours of admission, the death rate was 1.6 per cent. There were 10,605 patients' days, giving an average of 16 days per patient.

In the outdoor department the report was as follows:— Medicine, 1,780; surgery, 1,430; gynaecology, 499; eye, 620; nose, throat and ear,

874; skin, 309; genito urinary, 763; total number of consultations, 6,275.

The total receipts for the year were \$15,437. Last year the amount was \$21,405, but it included \$6,395 subscribed especially for paying off the outstanding deficit, which had existed for some years. Private patients paid \$6,423, as against \$6,298 last year. The average daily cost of each patient was \$1.42.

Following are the newly-elected officers:—President, Mr. Peter Lyall; first vice-president, Mr. Robert Bickerdike; second vice-president, Mr. B. A. Boas; treasurer, Mr. H. A. Hodgson; general secretary, Dr. Geo. T. Ross.

The committee of management is as follows:—Ald. Stearnes, J. Pitblado, P. W. McLagan, Thos. Gilday, A. P. Willis, C. W. Davis, Jas. A. Ogilvy, jr., Dr. J. Perrigo, Dr. J. B. McConnell, W. H. Trenholme, F. Robertson, John Murphy, Chas. Gurd, J. T. McCall, D. K. McLaren, W. McLea Walbank, Ald. Gallery. Medical representatives:—Dr. Perrigo and Dr. J. B. McConnell.

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#### AMERICAN PHYSICIANS AND SURGEONS.

The following is the preliminary programme of the seventh meeting of the Congress of American physicians and surgeons, to be held in Washington, May 7th, 8th and 9th, 1907.

President, Reginald H. Fitz, M.D., LL.D., Boston; vice-presidents, *ex officio*; the president of the American Dermatological Association, Dr. Arthur Van Harlinger, Philadelphia; the president of the American Laryngological Association, Dr. Arthur W. de Roaldes, New Orleans; the president of the American Surgical Association, Dr. Dudley P. Allen, Cleveland; the president of the American Climatological Association, Dr. Thomas Darlington, New York; the president of the Association of American physicians, Dr. Francis P. Kinnicut, New York; the president of the American Association of Genito-Urinary Surgeons, Dr. William K. Otis, deceased; vice-president Dr. Harvey G. Mudd, St. Louis; the president of the American Orthopedic Association, Dr. Joel E. Goldthwait, Boston; the president of the American Physiological Society, Dr. William H. Howell, Baltimore; the president of the Association of American Anatomists, Dr. Franklin P. Mall, Baltimore; the president of the American Pediatric Society, Dr. B. K. Rachford, Cincinnati; the president of the American Medico-Psychological Association, Dr. Charles G. Hill, Baltimore; the president of the American Association of Pathologists and Bacteriologists, Dr. William H. Welch,

Baltimore; the president of the American Ophthalmological Society, Dr. Charles J. Kipp, Newark; the president of the American Otological Society, Dr. Emil Gruening, New York; the president of the American Neurological Association, Dr. Hugh T. Patrick, Chicago; the president of the American Gynecological Society, Dr. Clement Cleveland, New York; treasurer, Newton M. Shaffer, M.D., New York; secretary, William H. Carmalt, M.D., New Haven.

The meetings of the Congress will be held in the Convention Hall of the Arlington Hotel on Tuesday, May 7th, at 3 p.m., when the Congress will be opened by the President. The subject to be considered is: "The historical development and relative value of laboratory and clinical methods in diagnosis." Papers will be read as follows: by Dr. William Osler, Oxford, "The Evolution of the Idea of Experiment in the Study of Medicine;" By Dr. Lewellyn F. Barker, of Baltimore, on Neurological and Psychiatric Diagnosis; By Dr. Alfred Stengel, of Philadelphia, on Chemical and Biological Diagnosis; by Dr. Richard H. Cabot, of Boston, on Physical Diagnosis. This will be followed by a discussion by Prof. Fred'k Müller, of Munich, Dr. George Blumer, of New Haven, and others. At 8 p.m. an address by the President of the Congress, Reginald H. Fitz, M.D., LL.D., will be given. This will be followed by a reception.

On Wednesday, May 8th, at 3 p.m. the subject to be considered is: "The Comparative Value of the Medical and Surgical Treatment of the Immediate and Remote Results of Ulcer of the Stomach." Papers will be read as follows: by Dr. John H. Musser, of Philadelphia, and Dr. Charles G. Stockton, of Buffalo, on the indications for, the methods of, and the results to be expected in the medicinal treatment; by Dr. William J. Mayo, of Rochester, on surgical treatment of acute ulcers of the stomach, including perforations and hæmorrhage; and Dr. John C. Munro, of Boston, on chronic ulcers and the indications for surgical treatment. These will be followed by a discussion by Mr. B. G. A. Moynihan, of Leeds; Dr. A. Jacobi, of New York; and others.

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A meeting of the St. John branch of the British Medical Association was held December 14th, 1906. The president, Dr. Murray MacLaren, was in the chair, and the principal business, besides the election of officers, was the adoption of the by-laws. The following were elected for the ensuing year: Dr. Thomas Walker, president; Dr. James Christie, vice-president; Dr. J. R. McIntosh, treasurer; Dr. Warwick, financial secretary, and Dr. J. H. Scammell, recording secretary. The following



were elected members of the council: Dr. P. S. Sprague, Woodstock; Dr. G. T. Smith, Moncton; Dr. F. H. Wetmore, Hampton; Dr. Travers, Dr. Skinner, Dr. G. A. B. Addy and Dr. McAlpine. Dr. W. C. Crockett, of Fredericton, was chosen representative.

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The third congress of climatotherapy and hygiene will hold its meeting, during the Easter vacation 1907, on the French Riviera, that part between Hyeres and the Italian frontier, and in Corsica. The sessions will be held at Cannes, Monaco, Menton, and Ajaccio; but all the towns and stations on the Mediterranean Littoral are included in the programme—Cannes, Nice, Monte-Carlo, Mentone, Hyères, Antibes, Grasse, St-Raphaël, Juan-des-Pins, Beaulieu, Cap Martin, Florence. The Congress will last about one week on the French coast, and will finish in Corsica. The General Secretary is Dr. H. Verdalle 1, Boulevard d'Alsace, Cannes.

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Fifty thousand four hundred and forty-one patients were treated at the Montreal General Hospital last year. Of these 3,459 were admitted to the wards, and 46,982 were treated in the outdoor department, an increase of 222 in the indoor, and 2,466 in the outdoor department.

During the month of December 279 patients were admitted to the wards of the hospital, and 253 were discharged. There were 27 deaths, 16 of which occurred within three days of admission. The average daily sick in the hospital was 202, and the highest number on any one day, 215. Outdoor consultations numbered 3,577. The ambulance made 171 runs in response to calls.

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Dr. James Henderson of Cobourg was killed by accident on December 21st, 1906. He was driving home late at night in a heavy snow storm, and was struck by a Grand Trunk Railway train, and instantly killed. Dr. Henderson was a graduate of McGill, and won the gold medal of his year.

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Dr. N. Thornton of Bonaventure County, died on January 2nd, under painful circumstances. By the upsetting of the lamp his house was destroyed, and he was so badly injured that he died.

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Dr. R. B. Prince died in Chicago on January 3rd, as a result of pneumonia. Dr. Prince was a graduate of Queen's College, Kingston, and had practised in that town.

Charles M. Hagar, M.D., a graduate of the 1904 class of Queen's University, Kingston, died on January 12th, at Haseman Hospital Rochester, N.Y.

We have received from Messrs. Cadbury some samples of their chocolate confections packed in fancy boxes. The novelties include chocolate candy, crème almonds, Edelweiss chocolate, and others. *The Lancet*. Dec 15th, 1906.

George T. Tuckett has given \$1,000 to Hamilton Hospital to be expended on instruments and furniture for the operation room in the new wing of the hospital.

## Retrospect of Current Literature.

### SURGERY.

UNDER THE CHARGE OF GEORGE E. ARMSTRONG.

C. H. FAGGE, M. C. Lond. F. R. C. S. Eng. "Intussusception in Infants." *Practitioner*, December, 1906.

The interest in acute intussusception lies in the fact that it is the commonest form of acute intestinal obstruction in infants, comparatively rare in later childhood and adolescence, and exceedingly uncommon in adult life. The importance of early recognition and treatment is shown by the statistics of Gibson in the *Annals of Surgery*, 1900, where he states that the possibility of reducing the invagination diminishes rapidly after the first 48 hours of duration; giving 94 per cent on the first day, 83 per cent on the second and only 61 per cent on the third. When to this is added the universally fatal results in irreducible cases in infants under one year of age it is seen how very important early treatment is.

The anatomical conditions present at the ileo-cæcal region are brought forward as causative factors, namely, the relatively greater freedom of the ileum and cæcum in infants, and the change from a more freely moveable mesentery of the small bowel to a more fixed large intestine with wider lumen.

He is strongly in favour of the bimanual examination of the rectum, and lays stress on the absence of the cæcum from the right iliac fossa along with a tumour mass some other place in the abdomen as being evidence of an intussusception. Laparotomy is the ideal method of treatment, inflation, at best, is regarded as an expedient method and associated with many dangers. He employs traction on the bowel

when reduction is difficult and cannot be effected by squeezing the apex towards the cæcum, his one idea being, to relieve the invagination without resection, as no case of resection under one year has recovered. If the peritoneal, or even the muscular coats are torn by this traction the rents are immediately sutured. He advises puncture of the distended bowel above the constriction by a large trocar to allow the contents to be evacuated. Appropriate feeding is commenced at once, and if the bowels have not acted naturally, a full dose of castor oil is given 48 hours after the operation. The mortality in 19 cases was 21 per cent, or excluding two irreducible cases, eleven per cent.; a most encouraging gain over other forms of treatment.

C. II. MAYO A.M. M.D. "Peripheral versus Intra-cranial Operations for Tic-Douloureux." *Surg. Gynec. and Obstr.* December, 1906.

The effectiveness of remedies for the cure of a disease is usually in inverse ratio to the number; and of all the diseases that are not fatal, probably facial neuralgia is one of the most distressing and most difficult to cure. Many methods of treatment are enumerated, from the simpler injection of saline solution, etc. around the peripheral openings to the major operation of excision of the ganglion. For those cases when only one or two of the branches are involved, the writer has had good results from evulsion of the nerve at the peripheral opening after Tiersch's method and the plugging of the foramen with a silver screw. No case so treated has complained of the nerve blocked, and some have been thus obstructed for several years. When the supra-orbital branch is involved, cure by this peripheral method is seldom, if ever, effected, and the same is also true when the buccinator is involved. In these cases, and in those when peripheral operation has failed, excision of the ganglion is indicated.

ORRO KILIANI, M.D. "Schlösser's Treatment for Trigeminal Neuralgia." *Med. Record.* December 19, 1906.

Schlösser has found in the course of his experiments since 1900 that alcohol, especially in the concentration of 80 per cent., is detrimental to nerve tissue. Thus, an injection of about 1 or 2 C.C. of 80 per cent alcohol into a sensory nerve will produce, after a short period of pain, a complete anæsthesia, which disappears after five or six days. It is a strange fact that, together with the anæsthesia, the tendency to neuralgic attacks disappears, that is to say, the feeling returns, but not the pain. This is, in few words, the *raison d'être* of the procedure. The technique of the procedure cannot be detailed here, but the injection is

made into the foramen corresponding to the branch involved, and into the ganglion if all these branches are involved. Three injections are given on subsequent days and a fourth if necessary a few days later. Recurrence of symptoms takes place in from 10 to 14 months, when it is found that the attacks are much lighter and yield to one or two injections. This method has also been employed in tic convulsif, and in mixed nerves like the sciatic without permanent injury to the motor fibres.

W. C. B.

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## MEDICINE.

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

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GEORGE G. SEARS, M.D. "Accidents following Thoracentesis: Pneumothorax: Sudden death from Exploratory Puncture." *American Journal of Medical Science*, December, 1906.

Thoracentesis has now become a routine measure both as a diagnostic and therapeutic agent. Accidents however occasionally occur, varying in severity from the pleuritic urticaria described by Minciotti, to a more or less speedy death. Albuminous expectoration, sudden death and pneumothorax are the three conditions to which most interest is attached, the latter two being considered in the present communication.

Sudden death after the withdrawal of even moderate amounts of fluid is a well recognized event, but it is not so well known that it may also follow simple exploratory puncture. Of ten reported cases seven occurred in children, and in at least eight instances a solidified lung was the cause of the ambiguous signs, and had been punctured by the needle. From experimental grounds Russell concludes that the sudden syncopal symptoms are due to afferent impulses conveyed to the medulla by the pneumogastric nerve. Death may be immediate or preceded for several days by unconsciousness and convulsions, which depend upon the cerebral anæmia produced by cardiac inhibition and the extreme lowering of the blood pressure. It is however probable that syncope and possibly asphyxiation, due to hæmorrhage from the wounded lung, play a part in the morbid process.

The writer records a case in which cyanosis and collapse with death in fifteen hours occurred at a second aspiration, and also three cases of pneumothorax resulting from thoracentesis, one of them being due to air returning through the detachment of the aspirating needle. The occurrence of pneumothorax is probably more frequent than is usually recognized after tapping, Ewart stating that on careful examination he

has repeatedly found it. A great majority of the cases recover, the break in the lung tissue soon healing and the air being absorbed.

The causes assigned for the accident have been multiple. Five cases have been recorded in which the aspirating pump was accidentally reversed. All of these recovered but reference is made to a case where a child immediately died. Some cases have been explained as due to the suction of the pleura through an unguarded needle, but there seems reason for grave doubt if this is even the mechanism for an appreciable pneumothorax. In the majority of cases in which fluid was present it was impossible to determine whether it was due to puncture of the lung, to a tear of the pleura bound down by adhesions, or to rupture of an emphysematous bulla.

These accidents occur more frequently when the condition is chronic, or when the fluid is purulent, and in many a large quantity of fluid, was withdrawn. The rapidity of evacuation may also be an important factor, the lung from loss of elasticity being unable to expand sufficiently rapidly to occupy the vacant space. These dangers may be partly averted by allowing the fluid to run slowly, and by stopping the flow after a moderate amount has been obtained. Siphonage is safer if the fluid has existed for a long time, or if there is a large effusion.

THOMAS McCRAE. "Typhoid and Paratyphoid Spondylitis, with Bony Changes in the Vertebra. *American Journal of Medical Sciences*, December, 1906.

McCrae describes two cases of spondylitis, one associated with typhoid and the other with paratyphoid infection. In both he was able to demonstrate the existence of bony union between the lumbar vertebrae by means of radiograms. The exact seat of this change is difficult to state. In one it filled in the intervertebral space between the second and third lumbar vertebrae, apparently being deposited in the lateral ligament and forming bony union between the two vertebrae. In the second the process extended from the second to the fifth vertebrae, and appeared to involve both the lateral ligaments and part of the intervertebral discs. So far these are the first reported instances of definite changes being found by radiograms. Cutler reported a case with negative findings.

The condition usually appears during convalescence, and in three-fourths of the cases the patients have been males. Pain is usually the principal symptom, being felt in the lower dorsal or lumbar regions, and may radiate round the body or down the legs. It is generally aggravated by movement. The character of the pain varies greatly, sometimes being present in violent paroxysms for hours with periods

in which it is described as a dull ache. It is not easily influenced by drugs, and even morphine may have little effect. Neurotic features may be marked and come on rapidly, the patient becomes hysterical, and is transformed into a whining, complaining, individual with whom it is difficult to have any patience.

In addition to pain there may be alteration of sensation, either paresthesia or anaesthesia. Pain on pressure over the muscles and nerves, spasms in muscles, and alteration in reflexes have also been noted, suggesting organic changes. Weakness, atrophy, and muscle spasm have been observed and the power of walking may be very slowly regained. Spasm is usually most pronounced in the muscles of the back. In the spine there are variations from tenderness on pressure to the presence of deformity and deposit of new bone. Fever of an irregular type has been observed in about half the cases, and must be regarded as evidence of an organic process.

The duration varies from two weeks to several months, and as much as two years has elapsed before the full working capacity has been recovered. Once begun, improvement is usually rapid.

The explanation of the condition is at present somewhat hypothetical. It seems probable that it is due to the action of bacilli on the bones, and, like other bone lesions in typhoid, often occurs late. The type described does not seem to differ from that found in osteo-arthritis, and in such cases it seems probable that an infective agent may also be the aetiological factor.

LOEWENTHAL AND WIEBRECHT. "On the Treatment of Tetany by Parathyroid Preparations." *Deutsches Zeit. fur Nervenheilkunde*, 1906, H. 5. 6.

Experimental work has led to the view that tetany is due to a disturbance of function of the parathyroids. The proof of the relationship of these conditions in man is still lacking and the writers have therefore studied the influence of parathyroid preparations on the disease.

They find a favourable influence is exerted in many but not all cases of the disease. They believe that the good results reported in some cases of tetany from thyroid preparations is really due to the admixture with parathyroid. Four cases are reported supporting the views expressed.

FRANCOIS MOUTIER. "La Fievre Metapneumonique." *Revue de Medicin*, September 1906.

Moutier draws attention to a short febrile stage frequently following the crisis in pneumonia and coinciding with the continued and pro-

gressive improvement of the patient. This elevation supervenes most frequently on the third day after the fall to normal, but it may occur earlier or later. The temperature rises to from  $99\frac{1}{2}$  to  $100\frac{1}{2}$  for several days, and then again falls rapidly, or by lysis, to a subnormal point. The rise of temperature is not associated with any other unfavourable symptom. Resolution proceeds satisfactorily, the pulse rate rises very slightly, the urinary excretion and the chlorides increase and the leucocytosis disappears.

Although this ephemeral fever must have been frequently noted by clinicians, Moutier points out that it has almost escaped attention in the literature. He quotes Fisher of Philadelphia as almost the only writer who has devoted any attention to the subject, and agrees with the hypothesis on which this writer explains the ephemeral rise. Experimentally it has been shown that albumoses withdrawn from hæmorrhagic foci are capable of causing slight elevations of temperature, and it is probable that the absorption of such bodies during resolution is responsible for the meta-pneumonic fever. Moutier suggests that the destruction of pneumococci or the enfeeblement of their poison may also play a role in producing this condition. Of forty cases this meta-pneumonic rise was noted in ten.

F. G. F.

THE ABDOMINAL REFLEX IN ENTERIC FEVER. Rolleston. *Brain*, Part CXIII, 1906.

Rolleston's observations were made upon 60 patients of all ages admitted into the hospital certified as having enteric fever. The diagnosis was confirmed in 45 of the cases. Of this number 31 were without the abdominal reflex—while in only 3 cases was it unaffected—the remainder all having it more or less impaired. Rolleston concludes that in enteric fever this reflex is affected in a large number of cases, and it would appear that when other conditions, as for instance appendicitis and nervous diseases, can be excluded, the absence of the reflex, when pyrexia is present, should suggest enteric fever.

W. F. H.

## PATHOLOGY.

UNDER THE CHARGE OF J. G. ADAMI.

BREINL AND KINGHORN. "An experimental study of *Spirochæta Duttoni*." *Memoirs xxi. Liverpool School of Tropical Medicine*, 1906.

From an attack suffered by Dr. Breinl, they found that the blood of patients suffering from relapsing fever is infective for susceptible an-

imals during the periods of apyrexia. They find that Africa suffers from European tick fever by its shorter attack; it begins with malaise, then suddenly headache occurs with pain in the spleen and bones, and vomiting and diarrhoea often precede an attack. Chilly feelings are common; there is a rapid increase in size of the spleen, and the extreme tenderness over it is characteristic.

When animals were infected, it was found that nearly all the laboratory animals were susceptible, the cat being notably refractory. In most cases, too, the younger animals were the most readily inoculable. Guineapigs and rabbits did not take the disease from the bites of ticks but were readily inoculated. In some cases there was persistence of the parasite for many months, showing that the disease could be both acute and chronic: no notable differences of virulence were observed by passage through series of animals or through man. The attack confers a certain degree of immunity, so that animals re-inoculated up to seven months after the attack, contracted the disease slightly or not at all.

In the direction of treatment a number of fruitless experiments were made with immune and hyper-immune serum, the latter is the serum from an animal repeatedly inoculated. Serum from horses, monkeys and rats was used, but no curative or preventive results were obtained, although if large doses of serum were used, the incubation period was lengthened, and to some slight extent the severity of the disease mitigated. They found, too, that there is a natural immunity in young, born of infected mothers, but this is very transitory: this immunity might be expected, as the foetus is generally infected, though the foetal blood contains the parasite in much smaller quantity than the maternal blood. With a view to determine the part played by the spleen in spirochaetal infections, splenectomies were performed at different stages of the disease. Soudakewitch has considered that the spleen was to the last degree important in the deduction of the spirochaetes, but Breinl and Kinghorn by careful attention to asepsis proved the contrary, for in splenectomised animals the organisms disappeared quite promptly, and relapse occurred as usual, and active immunity against re-infection is not influenced by the absence of the spleen.

Research on the morphology of *spirochaeta duttoni* are not yet completed, but Dutton and Todd have thought it likely a development process occurs in the tick; an infective stage of the organism can pass through a Berkefeld filter which prevents the passage of *Bacillus prodigiosus*.

While the above researches were in progress, the authors experimented with *sp. obermeieri* and found the animal reactions quite different from



those obtained with *sp. duttoni*, and found moreover, contrary to Horry and Knapp that even in the majority of cases, relapses occur with *sp. obermeieri*.

BREINL AND KINGHORN. "A new spirochaeta found in a mouse."  
*Lancet*, Sept. 8, 1906.

This publication inadvertently anticipates W. C. Wenyon of the Pasteur Institute, Paris, who is working on the same organism. It is apparently pathogenic to mice and rats: the authors have proposed for it the name of *sp. laverani*.

DUTTON, TODD AND TOBEX. "A comparison between the Trypanosomes present by day and by night in the peripheral blood of cases of human trypanosomiasis."

This is a more detailed study of blood taken from cases on the Congo, and resulted in the conclusion that no marked qualitative or quantitative change, corresponding to day and night, occurred in the blood in these cases.

Mole. The Lesions in the lymphatic glands in human trypanosomiasis. The author concluded that in early stages there was a great increase in the number of germ centres, which lessen greatly as the disease progresses, with a gradual transition from the ordinary lymph node to a hæmolymph gland. It is true that the significance of the hæmolymph gland is yet unsettled, but it is supposed that it has an important concern in hæmolysis and leucocyte promotion. Ultimately, sclerosis of the gland occurs, with very marked sinus formation. It seems unlikely that there is anything definitely characteristic in these changes.

DUTTON, TODD AND TOBEX. "Concerning certain parasitic protozoa observed in Africa."

This report, which does not readily lend itself to review, is a brief statement of many different forms of protozoa, malarial, trypanosomatic and spirochaetal observed in different wild animals and man. In some cases, the mere observation has been made, without definitely classifying the organism, and much material is here available for work which lack of assistance has hitherto prevented.

WILLIAMS L. A. AND WILLIAMS R.S. "Attempts to cultivate spirochaeta *duttoni*."

For short periods, up to four weeks, these investigators were able to preserve the organism, by means of defibrinated blood, at room temperature. The period of the attack at which the organism was taken

from an animal seemed of no importance, with reference to its subsequent viability.

BREINL, KINGHORN AND TODD. "Attempts to transmit spirochaetes by the bites of cimex lectularus (bed bug)."

Having obtained a positive result from this experiment, a careful series of attempts was made to verify it, but the results of careful work by the observers themselves have been utterly negative, and they are forced to the conclusion that error arose, in the first instance, through laboratory servants who carried out the feeding at the time of the positive result.

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### Society Proceedings.

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#### MONTREAL MEDICO-CHIRURGICAL SOCIETY.

The seventh regular meeting of the Society was held Friday evening January 4th, 1907, Dr. F. G. Finley, President, in the Chair.

J. E. LABERGE, M.D., read the paper of the evening on "How to improve our milk supply," this being the gist of a paper given before the French Medical Society. This Society had appointed a committee to take up this question fully, and at the close of the paper Dr. Laberge asked that a like committee be appointed from the Medico-Chirurgical Society to confer with their French confrères as to the best means of insuring a proper milk supply to the city. Accordingly Drs. Blackader, Adami, Evans, Fry and Archibald, with power to add to their number, were appointed a committee.

After referring to the great infant mortality in various centres to the results of analysis of many samples of milk examined by him, and to the different methods of adulteration practised by unscrupulous milkmen, Dr. Laberge would recommend for the improvement of the milk supply, 1st, that the public be educated to the necessity of obtaining a pure milk supply and of the proper methods of keeping it in the house, and that milkmen be educated to the necessity of producing such a pure milk to meet this demand; 2nd, that the Government be induced to take up the question, appoint inspectors for all districts, and if necessary to allow only those producers who possess certificates from such inspectors to bring milk into the city; third, that proper railway transportation be provided with refrigerators on the cars for the cans of milk, and 4th, that special places be provided for storing of such milk after leaving the trains.

D. J. EVANS, M.D. Dr. Laberge in his very excellent paper has distinguished between two factors in the problem. One is the pure milk-supply question, and the other is the infantile mortality. In this city the two, as they do always, overlap, but the lack of pure milk is not the sole cause of infantile mortality in this city. One of the most important steps is the education of the public, and I feel that too much stress cannot be laid upon this aspect of the question. We must keep iterating and reiterating the necessity of a proper milk-supply, the proper care of the milk in the home, and the proper care of the young infant. The question of pure milk is the one that is particularly before us to-night. The problem is extremely complex in this city. Dr. Dagenais has pointed out the fact that we are drawing our milk-supply from a radius of one hundred miles, and no small quantity comes from the Provinces of Ontario, by boat in summer and by train in winter, and from nearer the city, it being carted over the roads. There are said to be in the city of Montreal 492 milkmen. The milk is supplied in cans of the most antiquated and unsuitable pattern in a large proportion of cases. Only two days ago I had occasion to see one of the five gallon cans of a large dealer in the city, and it was in a most filthy condition. This thing in winter when the temperature is low is bad enough, but in summer with a high temperature no effort is made to improve matters. Reform will affect the producers, the transportation facilities and the consumers. We find that the majority of the farmers are ignorant or careless. A few are doing the best they know how, though the larger mass of them practically have no idea how to produce a high class milk. Railroad facilities are very inadequate. The milkmen complain that their cans lie sometimes in the station for over two hours before they can get them into their carts. Consumers are ignorant of the necessity of refrigerators and cleanliness in keeping milk in their houses. Means must be obtained to control all these sources of contamination before infantile mortality will be reduced. The problem before the Committee is a very extensive one, and will require careful study before any suggestions of a practical nature can be expected. I feel that it would be a privilege to serve on that committee.

J. E. Laberge, M.D. I have few words to add to what has already been said. I am pleased to have brought up this question before you, and the discussion shows the interest you will give to the subject, and it already seems assured that our milk supply will be improved. As to the previous attempt of Professor Adami and the late Dr. Wyatt Johnston to improve this matter, it has by no means been a failure. From

that time it has always been more or less before us, and now we are once more bringing the matter forward. Even if it takes two years more to bring the matter to perfection it will be time well spent.

#### EMBOLISM OF THE HEART.

H. M. LITTLE, M.D., presented this specimen before the Society and gave the following history of the case. Woman, aged 26, entered the Maternity Hospital about 34 to 36 weeks pregnant, October 9th. She had had three hæmorrhages, September 5th, October 2nd, and 9th. She was in the hospital from October 9th, to the 16th, when she had the fourth very severe hæmorrhage. She was very pale. The rate of the child's heart rose to 170, and on this account it was decided to deliver her. The cervix was dilated manually, and a living child extracted. The patient apparently made a fair recovery; the temperature, after a slight elevation on the 2nd, 3rd, and 4th, days, came down to normal on the 5th, and 6th, remaining so until her decease on the 10th, day. The pulse however was more rapid than normal, and on the third and fourth day she complained of some headache. On the morning of the 10th day examination showed the uterus to be in good condition, and she was told she might get up that afternoon. On attempting to get up she suddenly became cyanosed and gasped for breath. Stimulants were given at once, and she rallied; but within five minutes she had another seizure, and died almost instantly, the heart stopping absolutely though there were a couple of spasmodic attempts at respiration.

About six hours afterwards Dr. Klotz performed an autopsy and found in the heart two emboli about the size of the little finger. These had passed from the inferior vena cava into the right auricle down to the ventricle, and were blocked just at the entrance to the pulmonary artery which was absolutely occluded. The distal end of the embolus corresponded to the proximal end of the thrombosis in one of the uterine veins in one of the iliacs on the left side of the pelvis, which in turn was continuous with the thrombi at the placental site.

According to von Herff in von Winckel's Handbuch, the most recent contribution to the subject of puerperal thrombosis, about 2 percent. of all patients show evidence of thrombosis in the puerperium; 3 percent. have pulmonary embolism. It is the second most frequent cause of death in the puerperium in Basel where .05 percent. of all puerperal women die of pulmonary embolism. Von Herff believes that not all thrombi are of infective origin and used the doubtful argument that the organisms most frequently found where infection develops, viz: the streptococcus and the gonococcus, are rarely noted in these thrombi, and that the so-called saprophytes are the most frequent offenders where bacteria

are present. The correct belief here is that thrombi are due to infection with degeneration of the intima of the veins. In the case under consideration there were several agents which might have been accountable for a mild infection, primarily the mode of dilatation of the cervix, and the delivery. It is interesting to note that the embolism did not take place in the morning at the examination, but rather when the patient attempted to get out of bed. This form of embolism would appear to be singularly rare. In looking over the literature I have been unable to find an identical case.

OSKAR KLOTZ, M.D. There was a thrombus extending outwards from the uterine veins, towards the internal iliacs. Neither of the thrombi in the internal iliacs reached as far as the bifurcation. This however does not exclude the possibility that the thrombus originally reached the common iliac. On the right side we did not find a jagged end to the clot but the thrombus was covered with post mortem clot, and tearing that away one could not tell definitely whether the end had been broken or not. The thrombus in the pelvis was existent only in the two internal, not the common iliacs.

#### MILIARY TUBERCULOSIS OF THE CHOROID.

G. H. MATHEWSON, M.D., read the report of two cases, which appear at page 117.

F. G. FINLEY, M.D. Dr. Mathewson is to be congratulated on obtaining these two cases. I have never seen any, and I do not think it has been recognized very often. It certainly was the means of diagnosing the general condition present in one case.

#### THREE CASES OF PURULENT CONJUNCTIVITIS WITH DIFFERENT ETIOLOGICAL FACTORS.

HANFORD MCKEE, M.D., read this report which appears on page 125.

GEO. H. MATHEWSON, M.D. The cases brought forward by Dr. McKee are very instructive in that they show that the clinical appearances in cases of conjunctivitis by no means enable one to diagnose what microorganism was the cause the disease in any particular case. This fact does not seem to be generally recognized by the general practitioner. In the past few months we have had many cases bearing on this point, notably a case with very slight local symptoms, where gonococci were found in great numbers, and a case of membranous conjunctivitis due to a small coccus. It is well known too that one can have diphtheritic conjunctivitis without the formation of a membrane. Where at all possible, then it is well to make at least a smear for immediate microscopic examination in all cases of conjunctivitis; for an infection which is pursuing a mild course in one patient may cause fulminating symptoms if conveyed to a second patient.