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Original Communications.

A SERIES OF CASES OF STREPTOCOCCUS INFECTION.

BY JAMES BELL, M.D.,

Surgeon to the Royal Victoria Hospital; Assistant Professor of Surgery and Clinical Surgery McGill University.

I beg to submit the following very brief history of a series of cases of streptococcus infection which have recently come under my observation. The first case of the series was Mrs. H. Neill, aged 34, who was admitted to the Royal Victoria Hospital at 6 o'clock p.m. on the 8th of January, 1893, in a condition of great dyspnœa and partial stupor. There was a family history of tuberculosis. The patient had been confined on the first of January, being attended by a midwife. On the 4th of January she had a violent chill with suppression of the lochia, and on the fifth, cough and pain in the right side set in. On the 6th, she was first seen by a physician, who found evidences of acute peritonitis and pleurisy. On admission to the hospital on the 8th, she was found to be in a very desperate condition. Temp. 104°F. Pulse 140, weak and thready. Respiration 52. There was present dyspnœa with cyanosis and suppressed cough. Examination of the chest showed dulness with enfeebled breathing at both bases, but more marked on the right side. Dulness was also found in front on both sides. The abdomen was much distended and tender, especially over the hypogastrium, and the skin was covered with red erythematous rash.

During the night the patient continued to grow worse, diarrhœa set in with greenish and very offensive stools. Respiration became more difficult and laboured and cyanosis increased. Delirium was followed by coma, and death occurred at 10 o'clock a.m., on the 9th, 16 hours after admission. At the autopsy, which was held at 1 o'clock p.m. on the 10th of January, 27 hours after death, considerable effusion of blood stained serum was found in both pleuræ. The lungs were congested and œdematous, but there was no pneumonia. There was some fluid in the pericardium and recent lymph on the valves of the heart. The peritoneum, more especially in the neighbourhood of the uterus, was covered with a thick, almost purulent lymph. The intestines were matted together. The uterus was enlarged and its substance softened. On the inner surface at the placental site was a small patch of broken down tissue—probably a portion of the placenta. There was no thrombosis noted anywhere.

(I am indebted to Dr. W. A. Brown, Senior House Physician of the Royal Victoria Hospital for the above facts.)

Cultures of the peritoneal fluid made by Dr. Adami showed abundance of streptococci.

Dr. F. R. England, who saw this patient at her home, informs me that there was no infectious disease in the house at the time of confinement, but that scarlatina was very prevalent in the immediate neighbourhood.

The second case in the series was that of Dr. J. W. Scane, Senior House Surgeon, Royal Victoria Hospital, who has written to me the following account of his illness:—"I attended the autopsy on Wednesday, Jan. 10th, as a spectator only. After remaining in the room a short time, I left to get measuring glasses for Dr. Adami, and on my return I jammed my right index finger in the door, knocking off a small portion of skin at the root of the nail. I did not touch anything in the room—on the contrary, knowing the case to be septic, I at once put my hands in my pockets and left the room. I was quite well till next morning (Thursday), when I had a severe attack of diarrhœa. I felt miserable all day with headache and general soreness all through my body. About four o'clock p.m., Dr.

Brown took my temperature. It was then 99.6°F. At 8 o'clock Dr. Weeks took it, and it was then 101.8°F. Next day (Friday), in the morning, I first felt soreness in the right axilla and on examination found the glands considerably enlarged and tender. I also felt soreness about the jaw, the ascending rami being quite tender to the touch. There was no indication of any trouble about the finger wound at all. It healed as an ordinary abrasion would, and there was no redness of the skin of the arm. All went well till Saturday night, when I experienced a very severe pain over the region of the heart, extending also down the left arm. This was accompanied by a feeling of constriction about the throat, making breathing difficult. These symptoms were relieved in about half an hour by hot applications and morphia hypodermically. Next morning (Sunday) I felt much better in every way. The swelling in the glands had almost disappeared and the tenderness was very slight. I got up on Sunday evening and have been quite well since. My temperature never exceeded 101.8°F. I had no definite chill and no other glands were enlarged except those of the right axilla.

This illness of Dr. Scane's is perhaps susceptible of some other interpretation, and at best the evidence of its having been due to streptococcus infection is very incomplete. Some of the symptoms, indeed, suggest rather a mild attack of tetanus, but the rapidity and completeness with which they disappeared, as well as the shortness of the incubative stage, render this theory untenable. On the other hand, the incidence of the symptoms within twenty-four hours of the injury, and the enlargement of the glands in the axilla, together with the character of the symptoms themselves, leave no doubt as to the illness having originated in septic infection of some sort, and as this was the very first autopsy ever performed in the building, it is only possible to attribute the infection to this case.

The third case is that of Mr. Fred. Carron, a student, who assisted at the autopsy in the Royal Victoria Hospital. During the autopsy he pricked the palmar surface of his left index finger with a scalpel. In the course of the evening the finger became painful, and at night it prevented him from sleeping.

During the night he got up and pricked it with a needle, thinking that something had got into the wound. In the morning he called upon Dr. Roddick, who made a deep incision through the site of the wound. There was no pus and no redness of the arm, although the axillary glands were slightly enlarged and tender. The following day, Jan'y. 12th, he went to the General Hospital. His temperature was then 102.6°F at noon, but gradually fell until at 8 o'clock p.m. it was only 99°F. During the next five days the temperature remained normal, and the wound in the finger completely healed. He complained, however, of some pain in the axilla, and on the 15th of some sore throat. On the night of the 18th he complained of more pain in the axilla, and in the early morning (19th) he had a chill and at night a slight epistaxis. The temperature rose on the 19th to 101.2°F., and the next nine days it ranged from 101 to 103.6°F., the pulse range being between 90° and 100°F. During this time I saw him daily with Dr. Roddick. We examined him carefully every day, but found no indications for operative interference. On the 20th the axilla was swollen and tender. On the 21st the swelling had diminished in the axilla and was greater just below the clavicle and under the pectoral muscle. On the 22nd the swelling and tenderness had greatly diminished again in this region, and the most painful spot, which was also swollen, was just at the inner edge of the deltoid muscle. There were now some spots of redness on the arm. On the 23rd a red patch, as large as the palm of the hand, appeared in the pectoral region. This was painful and tender. These areas of redness were at this time attributed to the hot poultices. On the 25th we decided to explore the axilla. This was done under ether by an incision in the centre of the axillary space through skin and fascia. Another incision was made at the edge of the deltoid directly down to the bone, and a third along the outer edge of the scapula. Nothing was revealed by these incisions. Next day other areas of redness (dermatitis) had appeared over the forearm and back, and a diagnosis of erysipelas was finally made. On the 26th Dr. Adami collected some serum and blood from some of the newer

areas of erysipelas for examination, but with a negative result. From this time he began to improve and is now convalescent.

The fourth case is that of a man named Michael Smith, aged 44, on whom I operated in the hospital for inveterate club foot, one hour after having operated upon Carron, the patient being on the same table and in the same operating room, and my assistant being the same House Surgeon as in Carron's operation. The table, a wooden one, covered with rubber, had been scrubbed as usual after operation, and my assistant and myself had taken the routine precautions to cleanse our hands. The operation consisted in the removal of the astragalus, scaphoid, cuboid and portions of the two inner cuneiforms and the head of the os calcis, as well as the overlying bursa which had been in a suppurating condition with sinuses for seven years. The operation was long and tedious and required much manipulation. The patient was as comfortable as could be expected for the next three days. On the 29th, as he was complaining of pain, the dressing was changed. There was some redness and swelling of the skin of the foot which I then thought was possibly due to the rough manipulation during the operation. For the next four days the patient was not so well. He complained of much pain and his temperature ran up to 102°F. at night. On the second of February the dressing was again changed, when the whole foot and leg were found to be red, swollen and vesicated—an undoubted erysipelas. Then for the first time the connection of this with the previous case (Carron's) was brought home to my mind. On the 5th instant, the dressing was again changed in order to enable Dr. Adami to collect some serum for examination. The inflammatory process had, however, so definitely subsided that nothing was done, except to collect from a vesicle which had remained unbroken. The serum thus collected has yielded a negative result. No suppuration whatever occurred about the wound, and the patient is progressing most satisfactorily. It is, of course, much to be regretted that the conditions were not recognized earlier in the third and fourth cases in order that bacteriological investigation might have been systematically and successfully carried out, and the presence or

absence of the streptococcus definitely determined. Clinically, however, the picture is a very suggestive one, and reaffirms the absolute necessity for the complete sterilization of the operating table, the surgeon's hands and of everything that may come in contact with the operation wound. Scarcely less important, perhaps, is the demonstration that the inoculation of the streptococcus produced erysipelas, in one case remotely through the lymphatics, and in the other case directly, but in neither suppuration.

CASE OF MULTIPLE ABSCESS OF THE BRAIN ASSOCIATED WITH PULMONARY DISEASE.*

By F. G. FINLEY, M.B. (Lon.), M.D.,
Physician to Montreal General Hospital, Lecturer in Medicine in McGill University.
AND
J. G. ADAMI, M.A., M.D.,
Professor of Pathology in the McGill University, Pathologist to the General Hospital.

T. W., aet. 61 years, by occupation a painter, became ill upon February 23rd, suffering from a severe cold, which made him take to his bed. He left his bed the next day but was forced to return, the cold having increased in severity, there being a pronounced cough with expectoration and frontal headache. This was followed by pain in the chest, high fever and the expectoration of blood-stained sputum. When he was admitted into the General Hospital upon March 9th, these symptoms had disappeared, and nothing was to be detected in the chest save a few crepitant râles at the base. There was, however, great feebleness, with obstinate constipation. The right pupil was larger than the left, without there being any disease of the fundus. There was no evidence of renal disease. The patient became gradually comatose with coma vigil. The pulse continued unaltered at 84, the respirations were 28 per minute, only increasing at the last moment, the temperature was 100°. The patient died six days after admission.

At the autopsy performed fifteen hours after death, the trachea was found greatly congested with thin blood-stained mucus covering its surface. The bronchi were reddened and affected with bronchitis, the upper lobes of both lung were œdematous, the lower lobes of both lungs were heavy to the feel and fairly firm, they were greatly congested but at the same time crepitant. At the root of the right lung was a suppurating bronchial gland.

In the heart the one point deserving notice was the condition of the coronary arteries; these, while not definitely atheromatous, were greatly dilated, their walls having undergone fibroid thickening. There were small patches of fatty change in the first part of the aorta, with more distinct atheroma in the lower dorsal and abdominal aorta.

* Read before the Montreal Medico-Chirurgical Society, April 6th, 1894.

In the alimentary tract the only markedly abnormal condition was the presence of a suppurative tonsillitis. The liver was somewhat fatty, the pancreas firm and fibroid, with dilated and tortuous artery, the spleen small and fibroid with wrinkled capsule, the kidneys large and long with diminished antero-posterior diameter, distended arteries, finely granular surface, lessened cortex, and with a small cyst upon the surface of the right organ. Beyond these conditions, nothing noticeable was observed. Save for the suppurative tonsillitis and the state of the lungs, the condition of the organs was what is expected to be found associated with the arterio-sclerosis of advancing age.

Coming now to the brain it was noticed that upon removal of a skull cap of abnormal thickness, the left hemisphere seemed to bulge more than the right, and the convolutions were more flattened. Upon removal of the organ the vessels at the base were found markedly atheromatous, even to the end of the fissure of Sylvius. Around the roots of the anterior cranial nerves there was a purulent meningitis extending in front to the olfactory bulbs, behind it reached as far back as the line joining the points of egress of the 5th nerves.

Upon opening the lateral ventricle of the left side, it was found to contain a large quantity of fairly clear or semi-transparent greenish muco-pus; in the region of the posterior cornu this extended for several centimetres outwards into the white matter of the brain, forming a channel with smooth walls; this did not extend into the grey matter. The choroid plexus was thickened and œdematous. In the substance of the left hemisphere, opposite to the junction of the temporal and parietal lobes there was a large cavity in the white matter, containing pus of a like clear mucoid greenish character. Its walls were of reddish-blue colour and were necrotic. The right ventricle contained a large cast of whitish green pus extending over the whole of the mid-region of the ventricle. In the white substance opposite to the ascending frontal convolutions, and upon the level of the junction of the upper and middle frontal lobes was another abscess the size of a hazel nut; this extended quite superficially into the gray matter, less than 1 cm. of wall remaining. It contained similar greenish contents, and had walls undergoing necrosis. There

was further a small abscess containing but a few drops of pus in the posterior portion of the right optic thalamus. The pus present in the left ventricle extended down into the third and fourth ventricles. On cutting into the cerebellum the left lobe was found normal; the right lateral lobe was the seat of another abscess, with well-defined walls, filled with necrotic material, associated with the same pale greenish pus; this was 5 cm. in the greatest diameter and about 3 cm. wide, being of oval shape. The pons and medulla were normal.

A few encapsuled diploccoci were found in the greenish pus of the cerebral abscesses.

We have recorded this case mainly because of its bearing upon the relationship between lung disease and cerebral abscess. That such relationship frequently exists has long been recognized. Only last year one of us (F.) had a case under observation, presenting many points of similiarity with the present, and while we were engaged upon studying the material obtained from this case, our mutual friend, Dr. Williamson, of Manchester, published a short article in the *Medical Chronicle*, bringing together the observations of several observers upon this very subject. Hence it is not inappropriate to call attention here to this case.

Williamson's epitome of the literature of the subject shows that more frequently cerebral abscess develops as an accompaniment of chronic lung trouble, rather than as a sequela of acute. More especially it is in cases of chronic bronchitis and bronchiectasis that the relationship is found. There are, however, several cases in which the abscess formation has followed upon acute pneumonia. In the case mentioned by us the exact conditions which had led to the abscess formation cannot be stated with absolute certainty, although it is safe to infer from the history given that the patient had suffered from croupous pneumonia, and, from the condition of the lung both macro- and microscopically, that this disease had affected the lower lobes on either side. The presence of lanceolate diplococci in the characteristic greenish pus may be urged with some force in favour of this contention. On admission into hospital the condition was one of advanced resolution of the disease, the only active disturbance found at the autopsy

being the suppurating gland at the root of the right lung. The presence of this condition of the gland is in itself suggestive of a tendency on the part of the inflammation that had affected the lungs to travel beyond those organs.

It is difficult to offer a satisfactory explanation, or one that will embrace all cases why there should exist this liability for cerebral abscesses to be associated with disease of the lungs more frequently than, for instance, renal abscesses are found to be thus associated. In our case, it is true, there was extensive atheroma of the cerebral vessels, and the diseased condition of the arteries may have been a predisposing cause; such atheroma, however, is not constantly present.

PHYSIOTHERAPY FIRST.

Nature's Medicamenis Before Drug Remedies: Particularly Relating to Hydrotherapy.*

By Edward Playter, M.D., Ottawa.

All through the records of the history of medicine, from early Assyrian and Egyptian times down as we find to modern uncivilized tribes, we have clear evidence that in the first or early steps in the science of medicine, the practice of the art consisted for the most part in the employment of magical incantations, the laying on of hands, &c., and was apparently somewhat of the nature of modern hypnotism, acting through the mind, as if the chief reliance in the healing of disease was upon the natural living forces within the body. We are here reminded of the old saying that "God made man upright, but he hath sought out many inventions." Although Æsculapius in his practice, we are told, enjoined first of all a hygienic regimen, attention to the diet, strict temperance and absolute cleanliness by frequent ablutions, and although the temples that were afterwards erected in his honour were built in the healthiest localities, and the patients in them treated upon like hygienic principles, including rest and pleasing impressions, yet, so far as we know, it was Hippocrates who, practising in a similar way, first drew special attention to the inherent natural curative force within the body, applying to it the term phusis (φυσις) nature, the "vis medicatrix naturæ" of later Roman writers, while he also recognized subordinate forces, which he termed dunamies (δυναμιες), relating more particularly to the various organs of the body. Moreover, in practice this father of medicine allowed these forces to pursue unmolested and uninterrupted their benign course; and he was in practice it appears remarkably successful. Coming down through the obscurity of the dark ages to two or three centuries ago, we find the discerning Van Helmont advancing the theory of a more specific healing force or power within the body, different from that belonging to inanimate matter—a sentient principle seemingly distinct from the cor-

* Read at the Semi-annual meeting of the Rideau and Bathurst Medical Association, January 31st, 1894.

poreal frame, and which he personified as the "Archæus," or "Grand Regulator," whose throne was the stomach; Wepfer designating a like power as the "President of the nervous system;" and the bold Stahl attributing such an influence "Directly and entirely to the rational soul, diffused over the whole body." And while we still continue to pour in drug remedies as our sheet anchor in the treatment of disease, and the schools especially waive before us, perhaps not now so much as they did a few years ago, the endless and ever increasing drug formulæ of the pharmacopœia as the alpha and omega of resource in therapeutics, leaving us to find out for ourselves in practice, through years of most bitter, most destructive experience, the unreliability and danger of most drug remedies, a Metchnikoff now rises up and displays before our wondering eyes, as it were, the vis medicatrix naturæ actually personified, certain living cells in actual combat with disease germs; while other investigators teach us that there is generated in the body and found in the blood serum, a germicide more powerful than corrosive sublimate.

It is not my intention to make a tirade against drug remedies. Some of them are of undoubted value as subordinate remedies; although as Prof. Erb, of Heidelberg, says, of "chemical or internal remedies":—"Here we enter upon a very obscure field, which needs thorough cultivation. We know almost nothing of it; the little which therapeutic experience has taught us is neither securely established nor in any way scientifically or intelligibly founded." But I would like to deliver a vigorous tirade against the practice of the text-book makers and of the schools giving these remedies first place, usually, instead of the last, in the materia medica.

Many years ago I suggested, at more than one meeting of the Canadian Medical Association, that the profession in Canada take the initiative and appoint a committee with the view of inducing the profession elsewhere to join and cut out about nine-tenths of the pharmacopœia—and to separate the few grains of gold in it from the enormous amount of what is practically dross.

I will just mention here a few points relative to some of the dangers which may arise from drug remedies. On the 13th of the present month the *British Medical Journal* gives the report of "An inquiry regarding the importance of ill-effects following the use of antipyrin, antifebrin and phenacetin, by the Therapeutic Committee of the British Medical Association." I can only give two or three lines of the ten to eleven close columns of the report, as follows:—"The list of ill-effects noted with antifebrin is not only a very formidable one in itself, but loses none of this character when we consider the frequency of their occurrence." True it is that, as regards the freedom from ill-effects of the three drugs, antifebririn is third and last; phenacetin being first.

We must admit, furthermore, that the ill-effects from the administration of almost any drug may be considerable, even serious, and not be manifested even on close observation for a long period of time; just as we know is the case with certain kinds of food consumed. And when we think for a moment of the complex, intricate nature of the physiological and vital processes going on within the human organism, or of the susceptible nature of the digestive ferments, for example, we can readily understand, theoretically, that the introduction into the body in any way of but a mere trace of some chemical product, even one regarded as mild in its action, may interfere with or disturb, little or much, the process of nutrition, as well as other functions. The same may be said in respect to disturbing in like manner the natural healing processes—to interfering with the formation of nature's germicide, for example, or with the vigorous action of the army of phagocytes. For do as we will or may, nature ever reserves for herself the maximum of power in the direction of the processes of healing. In the words of a paper by Dr. Von Dunhoff, in the *New York Medical Journal*, of a few months ago:—"I submit that however efficient as germicides certain chemical agencies may prove to be in the laboratory, the same impracticability attends them in their adaptation to clinical issues, and renders the effect of their use here either nil or mischievous, as is the case with respect to the

effects of many of the so-called chemical preparations, presumably prepared with the nicest precision as supplemental ingesta, intended for the correction of certain qualitatively defective conditions of the blood and tissues; and unless the inherent residual vis resistentiæ naturalis vouchsafes recovery, no man has yet attained the means of compelling such an issue artificially."

Experiments have shown that mice under the influence of chloral contract infections more readily than mice not under the influence; the chloral probably depressing or embarrassing the action of the phagocytes.

The millionth part of a drop of blood from a rabbit affected with anthrax may communicate this malignant disease to a healthy rabbit. Possibly a much smaller quantity than the millionth part of a drop, say the four millionth part, would not communicate the disease to the animal when it is in a natural vigorous physical condition. But who can measure the infinitesimal quantity of chloral for example or other drug, which having been first given to the healthy animal, might so depress the phagocytes in its blood as to enable the baccili of the disease, in that four millionth part of a drop of the infected blood, to come off the conquerors, establish their colonies and the disease, and destroy the life of the rabbit? Or who could weigh the mere trace of some of the depressing or soothing drug remedies commonly given in infectious pneumonia, or in the earlier or sthenic stage of some of the infectious fevers, which might possibly so interfere with the formation or action of the natural germicides in the body of the patient as to lessen the chances of recovery, or possibly to favour auto-infection?

Nor must we, moreover, meddle too far with benign nature even with our more natural remedies. No physician dare interfere with compensating hypertrophy of the heart in valvular disease. So in certain cases of epilepsy. In the words of Dr. Lyman, Professor of the Principles and Practice of Medicine, Rush Medical College, Chicago, in a recent address delivered before the Michigan State Medical Society, on the "Limitations of Therapeutics":—"Though the paroxysms of the disease may

have been suppressed and the patient apparently cured, or if not absolutely cured, greatly relieved for a long period of time, the patient will sometimes tell you that after all he would prefer not to continue treatment any longer. Not because dissatisfied with your methods or measures, but because he felt so much better when the disease was allowed to run its natural course, and because an explosion or conlvulsion at certain stated intervals seemed to give absolute relief, showing that the wisest and best therapeutical methods [or what appears to us to be wisest and best] may nevertheless absolutely fail in giving to the patient that degree of comfort and satisfaction which we desire and which nature knew how to bestow." So that it is sometimes better to bear the ills we have than to fly to others we know not of. True, if the cause or causes of the diseased state which gives rise to these explosive convulsions as a means of relief were first removed instead of the mere symptoms being treated, the result would be quite different.

Permit me then just to mention here in this connection, as a reminder, and we all need frequent reminders, the fact that, in the treatment of disease, there are two most important points, to bear in mind: first, to ascertain, if possible, by the most careful and thorough examination, the cause or causes of the diseased condition or symptoms we are called upon to treat; and second, to remove the cause or causes or prevent the recurrence of the same. Then, in very many cases, if we provide the ordinary essentials of health and life—pure air, water and sunlight, securing the utilization through the respiratory organs of abundance of oxygen, with suitable food, clothing and rest, or it may be exercise, probably partial, passive exercise, as in passive movements by another person or in massage, with the means of absolute cleanliness—abundance of water, dirt being so common a cause of disease, then usually benign nature "will do the rest.". Hence a very much larger proportion of the time given to the study of medicine should be devoted to the study of pathological conditions, and especially to the causes of these conditions.

The application of these natural remedies, the essentials of

life, as above named, may be termed natural therapeutics. Or, if I may be permitted to coin from the Greek a new term, for I have never observed it in print, a term more in accordance with medical nomenclature than the words hygienic treatment commonly used, I would suggest the term, Physiotherapy. Let us notice more in detail, yet briefly, a few of these therapeutic remedies.

Pure air and sunlight are recognized by everybody as being most valuable restoratives; yet they are not nearly so often prescribed and administered therapeutically to patients as they might and should be, and before drugs. Were they costly remedies and not free to all they would perhaps be more commonly prescribed. Besides, many people do not know how to breathe in, and get the full benefit of, pure fresh air, with its life-giving oxygen. They make only partial use of their respiratory organs. I have tried the experiment of inducing patients who suffered from weak, inactive lungs and consequent general debility, to draw in more fresh, cool air at each inspiration—to "eat the air," as the Hindoos have it. From this prescription alone great improvement has resulted. Deep forced inspirations will increase the bodily temperature.

The diet being a common cause of bodily derangement and disease, we have in modification of it and in feeding or fasting, a potent remedy. While many patients need feeding, with a more nutritious or suitable, if not more abundant diet, many on the other hand require to let the digestive, nutrient and excretory organs rest by remaining in bed for a time and eating almost nothing—fasting. Regulation of the diet in these various ways has alone in my hands proved to be a very efficacious remedy.

A complete rest for the whole organism, in this rushing age, with feeding or fasting as indicated, probably a few days of fasting and many more of feeding, is not infrequently a prescription strongly indicated and much needed, and alone is often sufficient to restore health. And the "rest cure," as it is called, is becoming as we know a somewhat common practice. It is to be hoped fashion will not abuse it.

Medical influence: Before noticing passive exercises and hydrotherapy I may just refer to this as a remedy. To it may be attributed the miraculous cures we read about occasionally, "faith cures" and the like. What physician has not witnessed the effects of mental influence exercised through the power of hope, in many cases of disease? or of the power of a strong will in overcoming disease? I will allude to but one practical and direct example of the power of the mind over the body: that of defecation in constipation from the sluggish state of the lower bowel. Persistent concentration of the will upon the parts, accompanied, not by straining but simply by desire of action, will alone overcome many cases of habitual constipation. Massage will usually aid in producing, and hasten, the desired action.

Mention may be made, too, as associated with mental influence, of hypnotism with suggestion; which although attracting a good deal of attention in France, is not yet well understood nor generally recognized as a remedy in practice.

Electricity is apparently destined to become an important remedy and may also be regarded as a natural one, in the treatment of disease, especially as produced by friction or usually termed static electricity. With its small volume and high degree of force in this form it has already produced highly satisfactory results. The nature of its action not being yet well understood, its use is necessarily empirical, and is a very bonanza for quacks. True it is that many of our most valuable remedies have been brought into use in this way. It has not fallen to my lot to have had much experience with electricity. Indeed, with the other remedies at command, I have never yet experienced the need of it; the electrical effects of massage usually sufficing.

Kinesitherapy—Passive local movements or exercises, as in massage and the manual or mechanical movements commonly termed Swedish, constitute a most potent remedy in a large number of diseases. It is a remedy the action of which we can readily understand and regulate and control. While the practice of massage—kneading, rubbing, percussing, or tapping,

is rapidly coming into general use, the so-called Swedish movements, which are of equal if not of greater value, seem not to be so generally practiced.

The effects of these passive exercises of the muscular tissue, by either massage or the more natural movements, while readily comprehended, are sometimes almost phenomenal. Diseased conditions are removed by substituting natural healthy action. They aid the natural forces in eliminating morbid or poisonous accumulations from the system. In all forms of dyspepsia, in dilatation of the stomach, when the muscular tissue is weak and inactive, in helpless cases of rheumatoid arthritis, even of several years standing, in curvatures of the spine and other deformities, and in paralysis of motion, no other treatment is so applicable and successful; when combined, I need hardly add, with other physiotherapeutic remedies, especially with abundance of atmospheric oxygen and proper food, and in rheumatism with the warm bath.

In relation to kinesitheray I will only add that, in all cases of muscular asymmetry, with the accompanying want of uniformity in action and vigour, a condition which is the forerunner or cause of many diseased conditions, especially as found in gynæcological practice, and in which ordinary exercise is not admissible, no other treatment meets the requirements so completely. As Dr. Kellogg, of the Battle Creek, Mich., Sanitarium, says, in "Modern Medicine and Bacteriological World," in his "experience with several thousand cases, lack of muscular development is the cause of a great share of uterine and ovarian displacements," and a "substantial cure cannot be effected by any other means." In the majority of cases the patients cannot take general "exercise" themselves, and these partial exercises supply the want.

Hydrotherapy: We now come to the last therapeutic agent to which I shall draw attention, and which indeed I regard on the whole as the most important and valuable of all—the common element water, in its various forms of application as in hydrotherapy.

When we consider the broad fact that many diseases, func-

tional and organic, if indeed there be any distinction, are caused more or less directly by dirt, dirt outside the body or within it, we can at once comprehend the value of water as a therapeutic remedy, and in the simplest form of application—water in which to wash and be clean. I need hardly refer to its value, as confirmed by the highest authorities, in washing out, with copious water or salt and water injections, the intestines in cases of cholera. I believe it would have an equally good effect in typhoid fever. Nor need I refer to its value, when copiously swallowed, in washing out the entire internal structure of the human body, to the minutest recesses among the tissues, as when the organism has become loaded with the debris—the dirt, practically—of the ordinary functions of life, which has accumulated in the fluids and tissues from want of proper hygienic care or habits. We know that it is now the opinion of many physicians that it is to the copious water drinking in most cases, much more than to any mineral ingredients in the water, that many of the popular "springs" owe their popularity. Persons suffering from excess of waste matters, and the poisonous substances arising from the decomposition of these in the tissues and fluids of the body—from impure blood, receive at the springs a complete wash-out—flushing—a succession of internal baths; they are simply washed and made clean.

But water, it need hardly be said, has as a medicament a much broader application than is indicated in any of these pathological conditions. Remarkable physiological and therapeutical effects can be produced by the application of water in various ways, and on the whole more safely and naturally than with drugs.

The only work on this subject in the English language, untainted with quackery, so far as I know, if we except the valuable treatise of Winternitz in Ziemssen's Hand-book of Therapeutics, now practically out of print, is that on the "Uses of Water in Modern Medicine," by Simon Baruch, a physician holding many high positions in New York, published a year or so ago by Geo. S. Davis, of Detroit. If any of you are not in possession of this practical little work, I take the liberty of saying that you should get it at the earliest opportunity. It consists of two volumes of

the " Physician's Leisure Library" series and is very inexpensive.

Dr. Baruch makes this happy distinction between hydrotherapy and hydropathy : " The former accepting water as one important remedial agent, the latter regarding it as a universal remedy." To my mind it is just about as Dr. Baruch further says : " While I emphasize my belief in all those drugs whose effects have been positively demonstrated in the laboratory and at the bedside, I espouse water as perhaps the most potent of remedial measures ; . . . upon the historical, physiological and clinical grounds succinctly set forth in the following pages ;" *i.e.*, of his book. Again, he continues : " The history of water as a therapeutic agent is not only a most interesting chapter, but it affords the clearest demonstration of the instability of therapeutic propositions, and the manner in which prevailing ideas influence them. Although the literature of the subject is the most extensive published with regard to any remedy, recent works on therapeutics treat it with a decidedly stepmotherly regard ; they dismiss it in a few beggarly lines, preferring to devote their columns to essays upon the action of remedies . . . whose actual clinical value is, in most instances at least, problematical. The history of water teaches clearly that no other remedy has so creditably passed through vicissitudes of depression, and that, despite professional and lay prejudice, it stands to-day unscathed and rendered secure against assault by the panoply obtained from physiological and bedside results."

A few words here on the history of hydrotherapy will be both interesting and profitable. Hippocrates laid down rules for the treatment of disease by water, which even at this day are practiced by both physicians and quacks. Two and a half centuries later, Asclepiades, though, it appears, not possessed of much real medical knowledge, by his great natural ability and discretion, attained eminence in Rome as a practitioner, depended almost entirely for his success on a judicious diet, massage and baths ; by means of which he performed " miraculous cures." So warm an advocate was he of the water treatment that he was dubbed " Psychrolutus." Through Asclepiades

hydrotherapy was popularized in Rome. He formed the school whence sprang Themison, Celsus and other eminent physicians. A pupil of his, Antonius Musa, restored the Emperor Augustus to health by the vigorous use of cold water; and he had Horace too for a patient. So grateful was the Emperor that he bestowed upon him and the whole medical profession the privilege of citizenship, and had a statue erected to Musa next to that of Æsculapius. Celsus, the "Latinorum Hippocrates," prescribed water freely; as did also Aurelianus, who originated the wet sponge abdominal compress for hypochondriacs. Galen was an advocate of cold water baths, and was the first it appears to advise cold applications to the head while the body was immersed in warm water. We know but little relating to the history or practice of medicine in the many dark centuries which followed the time of Galen. Oribasius of the fourth century, Ætius of the fifth, Trallianus of the sixth, and Paulus Ægineta of the seventh, the most noted of their time, were all zealous Galenists it appears and followers of his practice. Ægineta was an enthusiastic advocate of the use of water, and was the first to advise the cold douche in sunstroke. All the more eminent physicians of the next few centuries, during the more dense barbarism of Europe—Serapion of Damascus, Rhazes of Irak, Avicenna of Bochara, and Avenzoar of Seville who, it is said, lived to the age of one hundred and thirty-five years, appear also to have been disciples of Galen, following in his line of practice. Chemistry made considerable progress during that period, and there were many additions to pharmacy, and possibly but little water was used in any way until the dawn, in the seventeenth century. The Hippocrates of England, Sydenham, holding the more enlightened view that diseased action consists essentially in a natural effort of the system to remove morbid or noxious products, his practice was, like that of Hippocrates, to assist nature. I cannot learn that he relied much upon hydrotherapy; but a few years after his death, about the close of the seventeenth century, Sir John Floyer, physician, of Lichfield, Eng., published a "History of Cool Bathing, Ancient and Modern," a book which created an epoch in hydrotherapy,

passed through six editions within a few years, and many years later was translated into German. Blair and Cheyne, English physicians of the highest standing, recognized hydrotheraphy in their practice. The illustrious German physician, pathologist and clinical teacher, Hoffman, was the first to distinctly recognize the influence of water upon the " tone " of the bodily tissues. After his time, during the eighteenth century, the use of water in medical practice became much more popular in Germany. The surgeon of Frederick the Great, Theden, was the first to use it in fevers, small-pox and rheumatism. He improved the shower bath and warmly advocated its use. About this time Hahn and his son and Oertel helped much to establish the principles of modern hydrotherapy in Germany, in both acute and chronic diseases. The work of the illustrious Currie, published in 1797, first placed hydrotherapy on a scientific basis, it appears. It advocated the use of water in gout and paralysis as well as in fevers, and was translated into German and other languages. Although the practice of hydrotherapy was more popular in Germany than in England at this time, it is contended that it was by reason of translations of English writers, as Floyer and Currie. The practice of the latter was adopted in the Vienna hospital. To mention the wise, philosophic Hufeland as an enthusiastic and yet judicious advocate of hydrotherapy, as Baruch says, is to " give the imprint of true medical wisdom to it, and to indicate its wide adoption among the profession. He offered a prize for the best treatise on the action of cold water in fevers, determined by scientific thermometrical study." A Vienna professor was the successful competitor, whose treatise was published in 1823.

Notwithstanding all this, and more, hydrotherapy did not become generally popular until the time of the German farmer, Vincenz Priessnitz, who at his home in Grafenberg, Silesia. first received patients, enlarging his house as occasion required. In 1840 he had treated over 1,500 persons, from various parts of the world, and twelve years later had amassed an immense fortune. " His success was brilliant because he was a careful observer, a good judge of human nature, and his mechanical

skill enabled him to invent various technical modifications of the water treatment, many of which have been adopted by the profession and are still in use. A copious literature sprang up in all parts of the world, and many institutions were modelled after his establishment; monuments and fountains were erected to his memory. Physicians from all countries, who had been attracted to the mountain home, became converts to and missionaries of his practice." A few years later, Scoutetten, a French physician, after studying hydrotherapy in Germany, reported that, " The numerous permanent cures it has wrought recommend it, and it lies in the interest of humanity and medical science that its practice in Paris take place under the eyes of able physicians." Magendie aided in the propagation of hydrotherapy by physiological demonstrations. Fleury introduced douches, and explained his clinical success on physiological principles. Fever treatment as now practiced was initiated by Brand, who in 1861 published his startling results from immersions and compresses with water at 54° to 68°F. The practice was soon introduced into England by Wilson Fox.

Respecting the practice of hydrotherapy, as Niemeyer, in his work on practice, says :—" A series of cases are on record in which complete and perfect cures have been obtained by it, after all other methods of treatment had been applied in vain." Dujardin-Beaumetz (lectures at l'Hopital Cochin, 1887) said : " The benefits we obtain from cold water in the cure of disease arise from its physiological effect upon the circulation, the nervous system, the nutrition, and from its revulsive and heat lowering influence." Prof. Peter, of Paris, in his preface to the great clinical work on hydrotherapy of Duval, writes :— " Hydrotherapy suffices in most cases of disease ; added to other treatment, it is a most powerful auxiliary." Prof. Erb, in his classical contribution to Ziemssen's Cyclopædia, writes :— " To the most important and most active agents in the therapeutics of our field (nervous diseases) belong cool and cold baths, viz., the application of cold water in the most varied forms ; that which is usually termed ' cold water treatment.' Having been in recent times practiced more rationally and

studied more exactly, it has attained remarkable prominence. Its results in all possible forms of chronic nervous diseases are extraordinarily favourable. If we add to this the heightened skin and muscular action induced by various methods of bathing, the influence of diet, etc., it becomes evident that we possess few remedies which produce an equally powerful effect upon the nervous system." Semmola, Professor of Therapeutics in the Naples University (lectures, 1890), says :—" Hydrotherapy stimulates cutaneous activity, and with it all functions of tissue change and organic purification, so that often real marvels of restoration in severe and desperate cases are accomplished. Unfortunately, those remarkable results are more rare to-day than they were in the time of Priessnitz, of which I was myself a witness." In all cases of retardation of tissue-metamorphosis, he says, " hydrotherapy presents a truly rational treatment, and therefore unfailing effects, unless the local processes have reached incurable limits."

I could give many pages of such quotations from our highest authorities as to the value of water in the treatment of disease, but the above will suffice.

About a year ago, Rovighi, at a medical congress in Rome, read a paper respecting the effects upon the blood cells of the application of water, as shown by experiments he had made on men and rabbits. In March last, Prof. W. Winternitz, of Vienna, published (in *Cent. fur Klin. Med.*) a contribution on the same subject. Since that time, investigations by Dr. W. S. Thayer, of the Johns Hopkins hospital, and more recently still, studies at the Physiological Laboratory of the Battle Creek Sanitarium, have verified the results of the other investigations. In *Modern Medicine*, for December, is a translation by Dr. J. H. Kellogg of another article which had just been published by Winternitz (in *Blat. fur Klin. Hydrother.*) on the same subject. All these show clearly that the application of water, apparently hot or cold, to the surface of the body produces an increase, sometimes large, in the red corpuscles, leucocytes and hæmoglobin in the circulating blood. Winternitz reports : —" The maximum increase in red-blood corpuscles observed in

fifty-six persons examined, was 1,860,000 per cmm. The maximum increase of leucocytes was to the extent of three times the ordinary number. The maximum amount of hæmoglobin observed was fourteen per cent." Blood corpuscles stagnant in various organs and tissues are by such means, as in the case of muscular exercise, forced into the general circulation.

At the late Pan-American Medical Congress, Washington, Dr. Baruch, opening the discussion relating to the value of cold water in asthenia, mentioned the astonishing effects of the cold douche. It rouses the circulation and " sets the wheels of life again in motion" in the very climax of this condition—with " thready pulse, shallow breathing, dull eye, picking at bedclothes, subsultus, involuntary defecation,"—in any febrile condition, scarlet fever, &c. (*Therap. Gaz.*, Jan., 1894) and produces effects which no known drug remedy, not even alcohol, will produce.

I will but mention, what some of you may not have read of (in *Jour. of Am. Med. Assoc.* and *N. Y. Med. Jour.*) the Schott method of treating chronic heart disease by warm baths aided by muscular exercises. During the baths there is a reduced frequency of the pulse, with increased volume and strength and less irregularity. This effect is lasting, and a gradual amelioration of symptoms follows persistent treatment. It is said this treatment is applicable to a greater variety of cases than is Oertel's method. Schott medicates the baths by salines or carbonic acid ; but their value is probably almost solely due to the regulation of the circulation by the temperature of the baths. This I believe from personal experience.

Permit me, in conclusion, to say a very few words in respect to my own limited experience in the practice of hydrotherapy. In the latter part of my teens, having been a pretty hard working student, I was troubled a good deal with indigestion and a consequent want of good general health and vigour. In opposition to the wishes of my father, who was bitterly opposed to any semblance of quackery, and after having taken a good deal of medicine from several of the best physicians of the time

in the country around, under pretence of visiting friends during holidays, I placed myself under the care of a Mr. Brown, who had during the time of Priessnitz's popularity, which it appears extended to the utermost parts of the earth, started a hydropathic establishment, or "Water Cure," in Newmarket, Ont., near my home. Brown had no medical knowledge, and his failures probably outweighed his successes; but the "cold wet pack" or "sheet bath," and other forms of water application, which he prescribed benefited me, and was the starting point of my faith in the value of water as a therapeutic agent. During after years of laborious country practice, and many of them, although the want of available correct literature on the subject was a great drawback, I frequently availed myself of water as a remedy especially in copious draughts of it as a most certain and efficient diuretic and diaphoretic, directly unloading the cutaneous tissues and urinary organs, and through them in a large measure the entire body, of accumulated obstructing matters; as hot and cold compresses in local pathological disturbances; as a tonic in the form of a cold sponge or shower bath; as a most soothing regulator of the entire organism in the form of a warm bath; and in other ways. Of one thing I feel certain, I never in my practice knew the free use of water to do any harm. This, neither you, gentlemen, I think, nor I, can say of drug remedies. When weary and exhausted from riding all day, and perhaps all night, on the saddle or a two-wheeled chaise, nothing gentlemen, be assured, will rest and recuperate you, soothe the irritated nerves and equalize the disturbed circulation, like a warm bath, at a temperature of 93° or 94° to 97°F. Having spent many an hour reading in such a bath, I speak from personal experience. And now, largely as a consequence, when not very far from being 60 years "young," I feel better, more vigorous, youthful and clear headed than when at half the age. The warm bath you know has a high reputation too for warding off the effects of age. There is no other remedy so refreshing. Thus Minerva imparted renewed vigour to the weary limbs of Hercules. And three thousand years ago,

Homer wrote Hector's wife prepared warm baths that, "Returning from the fight," at Troy, "Hector might be refreshed."

. . . . . "Not yet the fatal news had spread
"To fair Andromarche, of Hector dead,
. . . . . .
"Her fair-haird hand-maids heat the brazen urn
"The bath preparing for her lord's return.

Retrospect Department.

RETROSPECT OF PHARMACOLOGY AND THERAPEUTICS.

By A. D. Blackader, M.D.
Professor of Pharmacology and Therapeutics, McGill University.

On the Treatment of Chlorosis, (*Therapeutic Gazette*, November, 1893), by F. Forchheimer, M.D.—In an excellent paper the writer maintains that the varied symptoms of chlorosis are due to two factors: (*a*) Deficiency of hæmoglobin producing an oxygen famine in the tissues, and thus interfering with their nutrition and functions; and (*b*) the presence within the blood of a toxic albuminous body which, the writer believes, has its origin in the intestinal tract, and is the result of some perverse process, either bacillary or digestive, preventing the contruction of the extremely complex hæmoglobin molecule. In treatment the principal remedies are iron, blood preparations, arsenic, and intestinal antiseptics. While admitting that in the greater number of cases inorganic iron, given by the mouth, does cure, yet in a minority it seems to be entirely without effect. It is evident that in these it is not the iron supply that is defective, but the iron utilisation, since many times the amount of iron required by the whole blood quantity has been given daily. It appears then that it must act in some manner other than by its simple presence. In its administration the author gives his preference to iron in organic combination. Hæmol and hæmogallol, the former a zinc and the latter a pyrogallol, derivative of hæmoglobin, he thinks cannot be pronounced more serviceable than hæmoglobin, but they are sometimes more available, as they can be given in wafers or chocolate tablets; the latter being especially valuable for children. Beef juice, blood itself, or blood conserves do just as well as anything else. The most desirable of these preparations is that one which can be taken most readily by the patient for a long time. Of the inorganic iron preparations, there is no doubt that some act better than others. He advises the choice of such as irritate the stomach least, are non-poisonous, and, when forced from their acid combination, will give rise to a substance which

has a tendency to counteract the cause of the chlorosis. The action of arsenic upon hæmoglobin formation is no doubt an indirect one. Its influence is often very valuable and is doubtless due to its effect upon digestion, notably upon digestion in the small intestines. He thinks it very effective in the anæmia of children due to intestinal disorder. Arsenite of copper is of value in those cases where the bowels are loose and intestinal catarrh may be considered as the cause of hæmoglobin diminution. Regarding intestinal antisepsis, the writer thinks that clinically we can produce this to the extent of preventing any abnormal putridity, and possibly, also, of preventing any perverse hydrolytic action interfering with hæmoglobin formation. Of many antiseptics experimented with, he has obtained the best results from hydronapthol, salol, and creosote. In a former paper (*Am. Jour. Med. Science*, July, 1893,) he has stated that the hæmoglobin could be increased, in all the cases in which he had tried it clinically, by the administration of either salol, or hydronaphthol, the latter being rather more rapid in its effects. Since then he has obtained the most satisfactory results, as proven by numerous analyses of the blood, by combining an intestinal antiseptic with the use of a blood preparation. He especially recommends five grains of hydronaphthol, or salol, before meals, and the same quantity of hæmogallol immediately after meals. When the latter cannot be obtained, large quantities of beef juice, or any of the many preparations containing blood, may be substituted. Care must be used lest the salol give rise to symptoms of phenol poisoning. Second in its results only to the above plan, is the administration of the antiseptic before the meal, and some form of inorganic iron, after the meal.

An Enquiry Regarding the Importance of Ill-Effects Following the Use of Phenazone, Acetanilid and Phenacetin, conducted by the Therapeutic Committee of the British Medical Association. (*British Medical Journal*, Jan 13th, 1894.)—In this very carefully conducted investigation the committee report that the result of their enquiries demonstrate that in the large majority of cases the ill-effects have been the direct result of injudicious and excessive dosage. In reference to

phenazone, they conclude that the ill-effects are not of the frequency or importance ascribed to them by a wide-spread impression. Among the precautions to be adopted, the most useful one is to begin with small doses, not exceeding 10 grains, and to be careful not to repeat it too frequently.

The reports in reference to acetanilid, as compared with phenazone, point to a radical difference, not so much in the physiological action, for that is exerted in both cases chiefly in the circulation and nervous system as in the power of the two drugs. Acetanilid is a much more powerful drug than phenazone. Speaking generally, it may be said that 2 grains of acetanilid, as regards its general therapeutic effect, is equivalent to about 10 grains of phenazone. The reports would place the ill-effects of acetanilid as of a much more severe character, and more frequent occurrence, than those of phenazone, while there is no such direct relation of the ill-effects to the dosage to be made out as was the case with phenazone ; indicating that acetanilid is more inconsistent in its action, and correspondingly more dangerous, than phenazone. They consider that to give acetanilid in doses of 5 or 6 grains, and still more to repeat these doses after a short interval, is a highly injudicious procedure.

Phenacetin appears to be in exceedingly good repute with those who have had an extensive experience of it. Ill-effects have been strikingly infrequent, and there is much unanimity as to the great value of this drug, especially as an analgesic, The initial dose that may be given with safety would appear to be from 5 to 8 or 10 grains.

Blood Changes in Hydrotherapeutic Treatment. (*Centralblatt f. Klin. Med.*, Dec. 9, 1893, *Brit. Med. Jour.*, Jan. 6, 1894).—By Professor Winternitz.—The writer in this article describes his investigations made upon 56 cases, either in health or with slight ailments, and particularly in anæmia. In a general application of cold to the body in varying ways, the blood taken from the finger and ear showed considerable increase in the number of red cells as well as of white cells. The hæmoglobin was also present in larger quantity, the increase reaching its maximum in one or two hours after the bath. The white cells are less constant in their behaviour. The increase he ascribes

to changes in the circulation, heart's action, tone of vessels, &c.. and he considers the effect on metabolism virtually the same as if the cells were actually increased. He has shown that more oxygen is taken up, and more carbon dioxide given off, as a result of the application of cold. By methodical repetition the above changes should become permanent. He refers to the good results thus obtained in anæmia and chlorosis, and thinks that in this way the beneficial effects of hydrotherapeutic measures receive a scientific explanation.

On the Administration of Calcium Salts in Hæmophilia, and Actual, or Threatened, Hæmorrhage, (*British Med. Jour.*, July 29, 1893,) by Dr. A. E. Wright.—After a very interesting paper describing a method for determining the condition of blood coagulability, without which, he says, the necessary clinical data cannot be collected, the writer goes on to speak of the results obtained from the internal administration of lime salts. He found that in capillary tubes of standard size filled with blood from the tip of the finger, the time required for coagulation was reduced from 12 minutes to 6 as a consequence of an addition of a small quantity of calcium chloride to the intra-vascular blood. He believes that there is a strong presumption that calcium chloride in small doses will prove of utility in the treatment of internal hæmorrhage, aneurysm and hæmophilia. An excess of the calcium salt, however, appears to interfere with coagulation.

Clinical Remarks on the External Use of Guaiacol in Reducing High Temperature in Typhoid Fever, and other Febrile Diseases. (*Medical News*, Jan. 27, 1894.) By Dr. J. M. DaCosta.—In this article the author gives us the result of his experiments in the reduction of high temperature in continued fevers, by the external application of guaiacol. The powerful antipyretic effect of this drug when applied to the skin was first pointed out by Sciolla (*Sem. Méd.*, No. 21, 1893). Then followed Bard's observations on tuberculous patients, which were soon corroborated by Lannor's. The writer, after reflection on these observations, determined to make use of it in the continued fevers, when the temperature ran high, in such cases as would ordinarily have been treated by cold baths. In

each case the local application of guaiacol was followed by a distinct, but slow, reduction of temperature, unattended by any noticeable disturbance of the circulatory or nervous system. There was no delirium, no change in the pulse or respiration, no obvious change in the urine. Sweating occasionally happened, but was not liable to be great. In some cases chilly sensations were experienced as the temperature fell. Dr. DaCosta thinks that this mode of treatment will prove useful in all those cases in which one might employ the cold water treatment, if the conveniences were present, or circumstances would permit. The guaiacol treatment is to be preferred in all instances where moving or disturbing the patient is to be avoided, and in typhoid cases where a tendency may exist to severe diarrhœa, or to intestinal hæmorrhage. One of the chief objections to the treatment is the decidedly unpleasant odor caused in the sick room. It is best overcome by the addition of oil of cloves. The mode of employment recommended is by rubbing it upon the skin of the abdomen or thigh, after the selected spot has been first prepared by washing with soap and water. It may also be simply painted over the surface, which will then be covered with lint and waxed paper, but in this case the effect is not so rapid. The maximum dose in his investigations was fifty drops, but this amount is rarely required, and should never be exceeded. The average dose is about thirty drops. With a temperature of 103°, it would be advisable not to exceed twenty minims at the first trial. He advises that the urine be carefully examined during the employment of the drug, but in none of his cases did he detect any signs of kidney irritation.

Correspondence.

A CORRECTION.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

Will you kindly make a correction in the report of the "Aneurism of the Ascending Aorta," in the March number of the JOURNAL, to the effect that it was Dr. G. F. Shaw, of St. Andrew's, P.Q., who performed the autopsy and sent in the specimen. I notice that the initials are incorrect, and that due credit is not given to him for obtaining this valuable specimen.

Yours sincerely,

EDWARD P. WILLIAMS.

Reviews and Notices of Books.

A Hand-book of Ophthalmic Science and Practice. By HENRY E. JULER, F.R.C.S., Ophthalmic Surgeon St. Mary's Hospital, &c., &c., with illustrations; 2nd edition. Philadelphia: Lea Brothers & Co., 1893. 549 pp. 201 woodcuts, xvii. chromo-lithographic plates.

Mr. Juler's book appears in a second edition, much enlarged and brought up to date.

It is a valuable text book for the student, ranking with such works as Nettleship and Swangy, not being so elaborate as Perry's or Fuchs' works.

The anatomy and physiology is treated well and thoroughly and the latest methods are elaborated in detail.

In Blepharitis, the author mentions as the most frequent cause, a persisting strumous or granular conjunctivitis, the discharge caking around the lashes, setting up the trouble.

In refraction the known methods are entered into and a detailed description of Maddox tests for the muscular insufficiencies (so-called) is given.

The book is profusely illustrated and well gotten up.

The Physiologist's Note-Book: A Summary of the present State of Pysiological Science, for the use of Students, by ALEX. HILL, M.A., M.D., Master of Downing College, Cambridge. With 36 plates and blank pages for MS. notes. London: Charles, Griffin & Co., Ltd., 1893.

The author in the preface explains why he has added another work to Systematic Physiology as follows:

"The object of the 'Note-Book' is to assist the student in codifying his knowledge, not to diminish the need for larger text-books, much less to take the place of lectures and laboratory work. The 'Note-Book' deals with the arguments of physiology. . . . . I have made an attempt, which might perhaps be carried further with advantage in other scientific text-books, to show the logical sequence of the several points of the argument by their typographical arrangement on the page."

This work is prepared by a teacher of fifteen years experience, and that in itself is a strong recommendation. The book is not a "quiz-compend," a form of literature that has done a

vast amount of harm and very little good, inasmuch as it has discouraged the educative reading of good books and fostered the worst sort of cramming.

The work under consideration occupies a place far above such condensed presentations of knowledge in all but useless, if not positively delusive form.

However it is not without its dangers also. If one could be sure that the 'Note-Book' would be put to its legitimate use, it would no doubt serve so good a purpose as to deserve the commendation of all. But with an examination before the student those who have actual experience as teachers and examiners know that even in such matters human nature is "unco, weak and little to be trusted."

The book is an accurate and fairly complete "summary of the present state of physiological knowledge," as the author terms it. It should prove valuable to all teachers of physiology. The references to the literature in English, of each subject given in the form of foot-notes, are very welcome, and for once we are glad to see that the work of American authors is recognized, which has not always been the case with English writers on physiology. Undoubtedly Dr. Hill's "Note-Book" will prove a valuable work when properly used.

Tumours, Innocent and Malignant, their clinical features and appropriate treatment. By J. BLAND SUTTON, Assistant Surgeon to the Middlesex Hospital. With two hundred and fifty engravings and nine plates. Lea Brothers & Co., Philadelphia. p. 511.

The classification adopted by the author is based on the minute structure of the tumour. He divides all tumours into four groups as follows:—I. Connective tissue tumours; II. Epithelial tumours; III. Dermoids; IV. Cysts. Each of these groups is further subdivided into genera. The formations known as infective granulomata are excluded from tumours, and this, according to the author, is a class which is likely to be largely increased at the expense of the sarcomata and carcinomata.

This classification is a very useful one, and one that is not only convenient clinically, but also as a working basis for the investigation of these growths, their life history and their

effects on the system. It does away with the old division into malignant and benign which has been the foundation of so many classifications which served more to confuse the student than afford him any real help.

Mr. Sutton has given us a book that marks an era in this subject. His collection of cases is most interesting, and he has not hesitated to go outside of the narrower limits of the human being into the wider field of the whole animal kingdom in search of examples of the various tumours and to explain their formation. His views are at times at variance with those commonly held, but at all times will appeal to the reader as being rational and carefully thought out. The book is fully illustrated, which adds much to its practical value. It is a work which can be recommended without reserve as being an authoritative guide to the diagnosis and treatment of tumours.

A Practical Treatise on Medical Diagnosis, For Students and Physicians. By JOHN H. MUSSER, M.D., Assistant Professor of Clinical Medicine in the University of Pennsylvania. Illustrated with 162 wood and 2 coloured plates. Philadelphia: Lea Bros., & Co., 1894.

Dr. Musser's work belongs to the very modern type of works devoted to the diagnosis of disease. Special attention is "paid to research for objective phenomena appearing in physical, chemical and biological changes in the tissues and secretions." The first part of the work deals with medical diagnosis in general, including chapters on bacteriology in medical diagnosis and the examination of exudations, transudations and cystic fluids.

The second part which forms more than four fifths of the volume deals with the diagnosis of special diseases. The work on the whole is excellent. It represents a great amount of honest toil.

A Text-Book of Physiology. By M. FOSTER, M.A., M.D., LL.D., F.R.S., Professor of Physiology in the University of Cambridge. Fifth American from the fifth English edition. Philadelphia: Lea Bros., & Co., 1894.

The fifth American edition of Foster's great work differs from the English edition in being complete in one volume. This is certainly a great advantage to the busy student and

practitioner. It is needless to say that the present edition is in every respect fully up to the physiology of the day. The clear, forcible style of the author makes it a pleasure rather than a task to read even the most difficult chapters.

A large number of histological diagrams with descriptive text has been introduced for the first time into the work. This will be a great saving of time and labour to the reader.

Foster's work on physiology remains and is likely to remain for many years, the most important work on the subject in the English language.

On Diseases of the Lungs and Pleura including Consumption. By DOUGLAS POWELL, M.D., Physician to the Middlesex Hospital. Fourth edition with illustrations. London: H. K. Lewis, 1893.

The fourth edition of this important work on diseases of the lungs is in every respect brought up to the present standard of knowledge on the subject.

The articles on Phthisis have received a very careful revision.

The author draws attention to the extreme views held by some medical men on the treatment of phthisis. He rightly points out that it is easy to loose the chief indication for treatment if the mind is solely directed to the infective nature of tuberculosis.

The entire separation of the phthisical from their friends is surely a piece of needless cruelty. Equally cruel and equally needless is the custom of some general hospitals in entirely refusing patients in all forms and stages of pulmonary consumption.

The chapters on Pneumonia and Pleurisy are well worthy perusal.

The author here as in all parts of his volume, deals in a common sense way with his subject. He is not led off the safe track by every noisy writer. We therefore find no extravagant statements regarding the value of any drugs in the treatment of these diseases.

Dr. Powell's work is in every respect a safe and valuable work. It is issued in the well known publishers' best style.

An Illustrated Encyclopædic Medical Dictionary. Being a Dictionary of the Technical Terms used by writers on Medicine and the Collateral Sciences in the Latin, English, French and German languages. By F. P. Foster, M.D., Vol. IV with illustrations. New York: D. Appleton & Co.

The fourth and concluding volume of this great work is now issued. The work is certainly one of the great undertakings of the present time in literature.

In very many respects it represents far more than the name dictionary implies. The definitions are in many of the more commonly used terms very full and explanatory.

We are pleased to learn that there is a very general appreciation of the value of this great work in this country, as many medical men have become subscribers.

Publishers, editors and all connected with this great work deserve great credit. The result of their labour is a work which redounds to the credit of American enterprise and work.

The Year Book of Treatment for 1894. A critical review for practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1894.

The Year-Book of Treatment for 1894 presents the same excellent features characteristic of this work in the past.

The review of the work done in the therapeutics of diseases of the circulation is especially valuable. It is prepared by Mitchell Bruce, of London. Equally valuable is the work of Markham Skerritt on the advances of the therapeutics of diseases of the respiratory system. Although special mention is made of these two articles as being above the average, the remainder of the special articles fairly represent the work of the year.

Two new articles have been added to the present volume. The first of these, on the diseases of children, is mainly devoted to the artificial feeding of infants. The second on "Bacteriology in relation to treatment," by Dr. William Hunter, is devoted wholly to a discussion of the anti-toxine treatment of tetanus.

The International Medical Annual and Practitioner's Index. 1894. Twelfth year. New York: E. B. Treat.

This welcome annual publication more than maintains its reputation as a valuable work of reference for the practitioner. The special article on "Facial expression as one of the means of diagnosis and prognosis in mental disease," by Dr. James Shaw, is profusely illustrated and will prove to be of great practical value. Other monographic articles are on the examination of the ear, and on diseases of the eye.

In addition detailed reference is made to the special therapeutic literature of the past year.

Canadian Medical Literature.

[The editors will be glad to receive any reprints, monographs, etc., by Canadian writers, on medical or allied subjects (including Canadian works published in other countries) for notice in this department of the JOURNAL.]

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Burns and scalds—Dr. Robinson, p. 275.

Pott's disease of the middle region of the spine--Its diagnosis and treatment—W. W. Bremner, p. 276.

Elimination and antiseptic treatment of typhoid fever—W. B. Thistle, p. 279.

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Perforation of abdominal viscera—Ernest Hall, p. 306.

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Dominion Dental Journal, April, 1894.

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Some of the uses of sulphurous acid—H. Arnott, p. 63.

(1.) Dietary in typhoid fever—W. H. B. Aikins, p. 66.

Dominion Medical Monthly, April, 1894.

Pseudo-membranous anginæ with scarlet rashes—W. J. Greig, p. 95.

Atlantic City as a health resort—J. H. Burns, p. 98.

(2.) Clinical notes on two cases of fissure of the neck of the bladder—G. A. Bingham, p. 69

Separation of the pubic bones during parturition—J. A. Carbert, p. 71.

Plaster of Paris spica as a first application in hip disease —G. W. Bremner, p. 102.

A case of tubular phthisis cured—A. H. Garrett.

Journal of Physiology, Vol. XVI., No. 3 and 4.

(3.) On the absorption of iron in the animal body—A. B. Macallum, p. 268.

Canadian Practitioner, April 1894.

Case of vaginal hysterectomy—K. N. Fenwick, p. 239.

L'Union Médicale du Canada, March, 1894.

Hydrocephalie avec présentation du siège—J. B. A. Lamarche, p. 113.

Appendicite sub-aiguë—E. P. Benoit, p. 121.

L'Union Médicale du Canada, April, 1894.

Sur les trantismes des l'œil—A. A. Faucher, p. 169.

Les principaux éléments de succès en cœliotomie—A. Lapthorn Smith, p. 175.

Journal d'Hygiène Populaire, April, 1894.

Rapport du 21e Congrès de l'Association Américaine d'Hygiène Publique, 1893—E. P. Lachapelle et J. A. Beaudry, p. 347.

(4.) La consomption ; ce que l'on en connait aujourd'hui et moyens d'en prévenir la contagion, p. 362.

(5.) Report on tuberculosis in Ontario—P. H. Bryce, p. 52.

(6.) Tuberculosis—Bulletin No. 20, Department of Agriculture, Ottawa.

Dietary in Typhoid Fever.

(1,) Dr. AIKINS points out how, during the last few years, the tendency has been to employ a more generous dietary in enteric fever. The dietary allowed to his last thirty-five typhoid patients has been attended by uniformly satisfactory results. It has not influenced the temperature unfavourably or prolonged the duration of its elevation, while the patients have appeared more contented than is the case where the diet is restricted. The bowels also have been much less constipated than when patients are fed upon milk alone.

The diet consists of a lightly boiled, scrambled or poached egg with bread and butter, milk in quantities agreeable to the

patient, broths, clear or thickened (oyster, chicken, mutton or vegetable) and at intervals during the day bread with meat gravy strained rice or sago pudding, custard, junket, milk toast, oysters on biscuit with a little wine. Patients are not given more than two eggs and eight ounces of bread in the twenty-four hours. He allows various fluids, besides pure spring and mineral water—barley water, lemonade, egg albumen, water, koumiss, cocoa, tea or coffee.

At the outset the patient is given a mild purgation, and throughout the illness a free operation of the bowels is secured by means of a small dose of calomel in the evening followed up, if necessary, by Seidlitz powders.

Fissure of the Neck of the Bladder.

(2.) The literature connected with the subject of fissure of the neck of the bladder is but small, hence Dr. G. Bingham's two cases are of not a little interest. In both, the condition, brought on by difficult labour, was associated with great loss of strength and of flesh, with frequency of micturition attended by great pain. Both patients were reduced to a low, nervous, hysterical condition. The diagnostic points relied on were: (1) A local tender spot with stabbing pain on pressure; (2) the drop or two of blood following the urine; (3) the history of a prolonged labour preceding the onset of the trouble. Treatment in one case consisted in performing a vaginal cystotomy, with removal of the granulation tissue found on the posterior surface of the neck near the middle line, and cauterization of the floor of the ulcer. In the other case the urethra was quickly dilated, until the little finger could be passed in—the bladder was washed out; this, with a belladona and opium suppository in the vagina and hot appliances over the bladder, constituted all the treatment. Both patients were relieved of pain and increased rapidly in weight.

Iron in the Animal Body.

(3.) Prof. Macallum's most original series of studies upon the iron holding constituents of the cells of the body, have led him to take up and throw light upon not a few problems of interest to the clinicians and pathologists, equally with the physiologists. The present paper deals with two allied questions —whether or not inorganic compounds of iron are absorbed,

and whether certain organic compounds are. When there is so much discussion as to the exact role played by iron in the treatment of chlorosis and other diseases, his results are peculiarly opportune. The process employed was that of micro-chemical examination of the intestinal mucosa of various animals before and after these were fed with various preparations of iron. The best method of investigation was found to be that of hardening the tissues in alcohol and then treating the collections by a mixture of equal parts of 0.5 per cent. of hydrochloric acid and 1.5 per cent. potassium ferrocyanide—a method which shows out the inorganic iron or albuminate of iron as so many granules of Prussian blue. By this method, as also by the employment of ammonium sulphide, Professor Macallum found that iron administered in the food—more especially the so-called 'peptonates' of iron—are taken up by leucocytes which wander out between the columnar cells of the epithelium covering the villi. The reaction is confined almost entirely to the lips of the villi. There the leucocytes are found increased in great numbers. At the same time the epithelial cells covering the villi take an active part in the process. When a slight amount of iron is present within them, this appears to be diffused throughout the cells in a soluble form; when greater amounts are present, then it is massed together in small granules, which Professor Macallum considers are of an albuminate of iron. Further, this iron collects towards the inner, fixed end of the cells, and is secreted and passed inwards to the underlying tissues in a soluble form, for the underlying elements yield frequently a deep homogeneous blue reaction. The further course of the absorbed iron would seem to be along two directions; in part it is taken up by the leucocytes and so conveyed into the lymphatics and thus eventually to the blood, in part it passed in solution into the venules whose walls and contents give the reaction when large quantities of iron have been ingested for a lengthened period. By this means, therefore, much of the iron is carried by the portal circulation to the liver, where it can be detected either in a diffused or granular form in the peripheral cells of the lobules; here then in the liver the iron is stored up. Some of the leucocytes containing iron may be found in the circulation, though rarely, and in the spleen pulp,

for while some leucocytes are conveyed along the lymphatics to the thoracic ducts, and so on to the systemic blood stream, most would seem to penetrate the walls of the portal venules, and to be conveyed to the liver, where large numbers of leucocytes containing iron may, under favourable circumstances, be found in the capillaries.

It was found that inorganic and albuminate compounds of iron are absorbed in all parts of the small intestines where the iron compound is not perceptible on mixture with bile and pancreatic juice. Ordinarily the extent of the absorbing surface is very limited, being confined to the lips of the villi in the immediate neighbourhood of the pylorus. The explanation of this peculiarity lies in the fact that the iron can only be taken up by the epithelium and the leucocytes in a soluble form, and that nominally this soluble iron salt of the chyme becomes wholly precipitated by the alkaline mixture of the bile and pancreatic juice. Above the openings of the ductus communis choledochus the chyme is usually acid or neutral, and here then absorption takes place. Albuminate of iron made according to Marfire's method is insoluble in weak acids, but soluble in weak alkaline solutions; when this given to a guinea pig, the villi between the pylorus and the opening of the pancreatic duct gave no iron reaction, but from the pancreatic orifice to the cæcum the villi gave clear evidence of its absorption.

These experiments controvert the view, not infrequently expressed of late years, that iron salts are not absorbed, their good effect being due to a stimulation of the mucosa to greater physiological activity. Evidently they are absorbed, and if the administration of iron is of value in chlorosis and anæmia in general—and of this there can be little doubt—these observations point out the way whereby iron may be most freely introduced into the economy—either that is by the employment of compounds not precipitated by the alkaline contents of the small intestines, or (what is more difficult) by reducing the alkalinity of these contents. It would be well, could Dr. Macallum determine whether the cells of the gastric mucosa take up iron salts or no, for he does not take this point into consideration.

The observations upon the absorption of organic iron compounds belonging to the unclean or, as Prof. Macallam terms it, chromatin class are not so clear; nevertheless evidence was discovered of the absorption of that present in egg-yolk in the instestines of the guinea pig and of *amblystoma.* In these, after they have been fed with egg yolk for several days, the substance of the liver cells yields marked evidence of the presence of an organic iron compound belonging to the "chromatin" class and derived from the yolk given as food.

Tuberculosis.

The increased interest taken in the prevention of tuberculosis is evidenced by the circular issued by the Board of Health for the Province of Quebec, (4) and the statistical report of Dr. P. H. Bryce (5), the former consisting of a popular summary of the modern views on tuberculosis, together with some sensible advice as to how the danger of contagion may be prevented. We find that the statistics on the subject obtained by the Board of Health for the Province of Quebec, show for the last sixth months of 1893 a death rate from tuberculosis of 1,286, out of a total of 15,785 deaths registered, or about 8 per cent.

The population of Quebec may be estimated for 1893 at about 1,527,000, which would gives an annual death rate from tuberculosis of 11.9 per 10,000 living as far as can be judged from returns covering half a year only.

In Dr. Bryce's report the deaths reported from all forms of tuberculosis in 1892 were 2724, of which 2592 were registered as having been due to phthisis. Although this estimate includes deaths from tabes mesenterica, hydrocephalus and other tubercular diseases, it is believed by Dr. Bryce to be far below the truth, and from calculations upon the statistics of Gärtner, Wahl, Hiller and others he obtains a theoretical death rate from tuberculosis in Ontario of 9,418. Without criticising this plan of calculating death rates, we may point out that, Ontario, with a population (estimated) of 2,146,020 for 1892, had an observed death rate from tuberculosis of 12.07 per 10,000 living, and a theoretical one of 43.9, so that in addition to all the registered deaths from the various forms of tuberculosis, recognized during life, there remains an unde-

tected yearly mortality from this cause amounting to 31.83 per 10,000 living—a state of affairs which may be sufficiently disquieting if true.

Leaving aside this hypothetical death rate, it is interesting to note that the observed mortality from tuberculosis in Ontario and Quebec are identical, and the disease is one-third less frequent in Quebec and Ontario than in England with 17.1 per 10,000, or the United States with 16. per 10,000. Dr. Bryce's report also contains interesting statistical information about the prevalence of tuberculosis among cattle.

(6.) It has been known for some years that tuberculosis existed among the stock of the Experimental Farm, and it was thought that animals sent to various parts of the country for breeding purposes had become the means of spreading the disease in localities where it had not existed previously. The herd has been thoroughly tested by injections of tuberculin, with the result that, out of 54 animals tested, 26 have given the reaction showing the presence of the disease, while 28 may be regarded as sound and healthy. The diseased animals (with the exception of five heifers isolated and reserved for therapeutic experiments with tuberculin) have been destroyed. The animals sent to the branch farms have not yet been tested with tuberculin, but are supposed to be healthy. The experiments were conducted by Prof. Wm. Saunders and Mr. J. W. Robertson.

Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, March 23rd, 1894.

JAMES BELL, M.D., PRESIDENT, IN THE CHAIR.

Dr. David B. Alexander was elected an ordinary member.

Talipes Equino-Varus.—Dr. BELL brought before the Society a man from whom he had removed the greater part of the tarsus for talipes equino-varus. The patient, a farmer, 47 years of age, had not suffered any great inconvenience up to seven years ago, being able to walk fairly well on the outer side of the dorsum of the foot. At that time a large bursa which had developed over the dorsum of the right foot became inflamed and suppurated. Since then sinuses had persisted and he had not been able to walk with any degree of comfort, and has been frequently under treatment. In January last he came to the Montreal General Hospital for the purpose of having the bursa treated, but as in all probability the disease had extended down to the tarsal articulations, the more radical operation of tarsectomy was advised. After some hesitation he submitted to this operation for the correction of the deformity. At the operation, the astragalus was first removed, then the scaphoid, then a small portion of the head of the os calcis, then the cuboid and finally to make the correction complete, the tip of the external malleolus and portion of three cuneiform bones were removed. Unfortunately a case of erysipelas had been operated upon on the same table half an hour before, and though every precaution had been taken to disinfect the surroundings, the patient contracted that disease. This prevented splints from being applied in the usual way, so that there is a little more turning in of the foot than usual, but the result is very satisfactory, almost perfect.

Talipes Varus.—Dr. BELL showed a young man, twenty-one years of age, upon whom he had operated for this condition. The patient had been for several years incapacitated for hard work, and lately had been unable to work at all. The left foot was very much worse than the right. Five weeks ago an osteotomy was performed above the ankle joint, turning in the foot and correcting the deformity. The object was to bring

the centre of gravity down through the centre of the foot instead of through the inner border.

The difference between the two feet when seen from behind was very well marked.

This operation was introduced by Trendelenberg a few years ago, and has practically superseded all others for serious cases of flat foot, which for one reason or another cannot be treated by appliances. Trendelenberg had observed that in certain cases of Pott's fracture, when care had not been taken to correct the deformity at the time of the accident, a condition resembling flat-foot had resulted. These cases he treated by osteotomy, and subsequently he extended the operation to cases of flat-foot.

Multiple Fracture of the Pelvis and Fracture of the Femur.—Drs. KIRKPATRICK and WILLIAMS presented a mounted specimen which consisted of the pelvis, the last lumbar vertebra and the upper half of the left femur. In the sacrum a fracture extended from the right ala at the auricular surface, which shows numerous splintered fragments, through the five right foramena to the transverse process of the first coccygeal vertebra. On the left side the bone showed many small splinters and incomplete fissures, especially on the anterior surface, extending in the same manner as far as the fourth lateral foramen. The left inferior articular process of the last lumbar vertebra is also fractured. On both sides the superior rami of the pubis showed transverse comminuted fractures. At the junction of the rami of the pubis and ischium on the right side and through the ramus of the ischium on the left are transverse fractures. The left inferior ramus of the pubis also shows an incomplete transverse fissure on its anterior surface. The left femur sustained a transverse comminuted fracture at about the centre of the shaft.

The man from whom the specimen was obtained was employed in excavating earth, when a large mass (400 lbs.) of frozen earth and shale fell on his side and thigh, crushing him to the ground. Four men lifted the mass and carried him to a bench. He was conscious, and after recovering from the primary shock was able to sit up; he said that his left leg was broken. Death occurred two hours later from shock or nervous injury, not from hæmorrhage.

Stated Meeting, April 6th, 1894.

JAMES BELL, M.D., PRESIDENT, IN THE CHAIR.

Compound Depressed Fracture of the Occipital Bone.—Dr. BELL exhibited a boy, aged six, who in August last had fallen into an excavation and had sustained a compound depressed fracture of the left occipital bone. He was seen a few minutes after the accident by Dr. Grant Stewart, who observing that he was rapidly falling into a condition of coma sent for Dr. Bell, who had him taken to the Montreal General Hospital, where he operated. After shaving the head he proceeded to elevate the depressed portions of the bone, the edges being chiselled away, so as to make an elliptical opening, half an inch in the short and one inch in the long diameter. The dura mater was torn and a large clot (about four ounces) was found lying upon the brain, but no active bleeding was discovered. Up to this time no anæsthetic had been given, but it was found necessary to administer chloroform to finish the operation. The boy made an uninterrupted recovery and was discharged about six weeks after. Since his return home his mother has noticed deafness in the left ear, some uncertainty about his gait, and incontinence of urine during sleep which condition did not exist before the examination. No examination of the ears had been made.

Penetrating Bullet Wound of the Brain in the Left Frontal Region.—Dr. BELL also exhibited a little girl, aged 5 years, who, while playing, had become possessed of a loaded twenty-two calibre English revolver, which she had accidentally discharged while resisting the attempts of an elder sister to take it from her. Dr. Hutchison saw her shortly afterwards and sent her soon after to the Montreal General Hospital, where she was given chloroform and the wound exposed. The bullet had penetrated the left frontal region, three-quarters of an inch to the left of the middle line and the same distance above the supra orbital ridge, going completely through the skull, causing a circular depressed fracture of about a quarter of an inch in diameter. The outer fragments of the bone were removed by forceps and the wound enlarged with a chisel. Forceps were then passed in carefully along the track of the bullet, and several spicules of bone removed from a depth of

two inches in the brain substance. Blood clot, pieces of broken down brain matter and fresh blood were also removed, when on passing the forceps in, the bullet could be distinctly felt at a distance of two and a half inches from the surface; several attempts were made to grasp it, but failed, and considering the region in which it lay, near the anterior cornua of the ventricle, Dr. Bell concluded that the risks involved in persevering in attempts to extract it were two great; therefore, after carefully cleansing the wound, a glass drain was inserted directly into the brain substance and kept in for seventeen days, being shortened on two different occasions. For the first four days the temperature oscillated between 90° and 100°, but afterwards remained normal. The child made an uneventful recovery and was discharged on Feb. 26. From the time she left the Hospital she has been absolutely well and is now going to school. Dr. Bell recalled a similar case which he had reported to the Society in the session of 1879-1880, of a man who deliberately shot himself in the temple and from which the bullet had never been removed. This patient died of phthisis two years later, and at the autopsy the bullet was found lying within half an inch of the falx cerebri.

Dr. PROUDFOOT, having made a cursory examination of the boy, found that the watch placed against the child's ear could be heard distinctly, whereas if it was removed the slightest distance, the sounds could not be heard at all. Whether this was due to conduction through the bones he could not say, but apparently the nervous portion of the ear was all right. He suggested that the difficulty in hearing might be accounted for by a catarrhal condition of the middle ear brought on by wet dressings, and which would disappear on treatment.

Dr. HUTCHINSON had seen the second case, the girl, half an hour after the accident had occurred. The child did not show any symptoms of brain injury. He put her under chloroform, examined the wound, and having found that the bullet had entered the brain, concluded to send her to the Hospital. He saw her again after her return from the Hospital, and the mother now states that she is even more precocious than before the accident.

Pulmonal Cerebral Abscess.—Drs. ADAMI and FINLEY. (See page 812.)

Remarks.—Dr. JAMES STEWART remarked that although there were plenty of opportunities for examining the case, a diagnosis during life had not been reached. The symptoms were not at all characterized, being simply those of an acute brain lesion causing pressure. He thought Dr. Adami's explanation was the correct one. Articles have lately appeared in the British journals pointing out the frequency with which acute central lesions and acute peritonitis were brought about by this organism. At the present time in the Victoria Hospital there is an instance of a suppurating arthritis following pneumonia, and in which the pneumococcus has been found in the joint.

Dr. GUNN had first seen the case referred to by Dr. Stewart in the outdoor department of the Victoria Hospital, and found an area of dulness over the middle of the right lung in front, rather small in proportion to the attendant temperature, which remained in the region of 104° for first 3 days. After entry to Hospital a well marked crisis had occurred and temperature remained normal for three days, when he developed a violent chill and showed all the signs of some acute infection or relapse. The following day a swelling developed in the cellular tissue of the left upper arm behind, showing a characteristic erysipelatous appearance, which subsided gradually, and 4 days after all fever had gone, there was another chill and rise of temperature. This time the knee joint on the right side and the left shoulder became very painful, tender and swollen, and on examining the contents a characteristic pus, not decidedly green, but rather of a milky nature, was found. The microscope showed nothing but diplococci with the capsules well marked. Bouillon cultures, however, did not show characteristic diplococcus growth, but rather that of a streptococcus. The examination is not complete—no inoculation having been made.

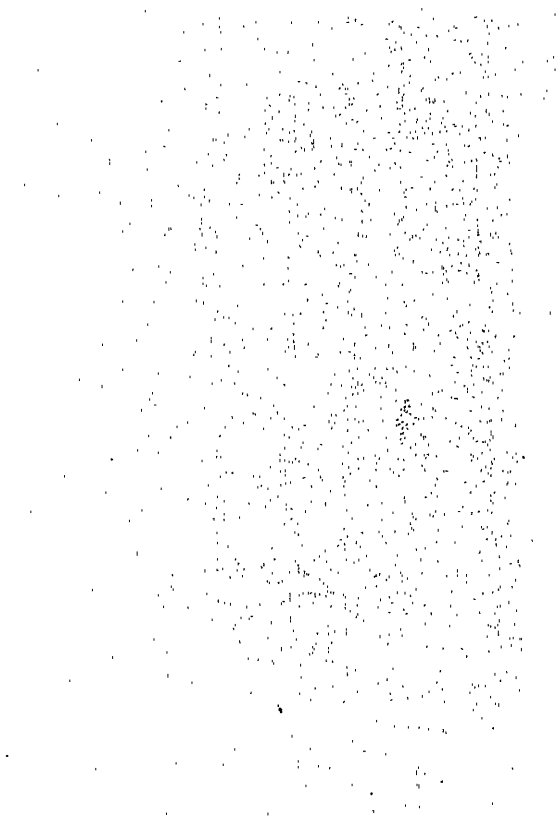
Dr. GUNN asked if in Dr. Adami's case any other micro-organisms were found and if inoculation had been made.

Dr. MILLS wished to know whether the arteries of the brain in Dr. Adami's case had been examined, and whether steps were taken to exclude emboli or ordinary forms of brain softening in the diagnosis.

Dr. ADAMI stated that abscess of brain with general signs of inflammation in the surrounding tissues were not caused by simple emboli alone.

Gall Stone.—Dr. BELL exhibited a specimen which, though only an ordinary gall stone, had a clinical history of especial interest. On Wednesday last he had been called into the country to operate on a patient supposed to be suffering from appendicitis. She was an unmarried woman, fifty years of age, and although a dyspeptic for many years, which she attributed to the loss of her teeth, she never had a day's real illness in her life. On the previous Friday she began to suffer from pain about the right hypochondrium; her physician saw her on the following Monday and found her suffering from great pain on the right side of the abdomen. Slight vomiting, normal temperature, and pulse about one hundred. The vomiting persisted all that day and night. Next day vomiting had ceased and morphia was given for the pain, but towards evening of the following day, her temperature rising to 99.5°, her physician grew anxious, and upon making an examination found a resisting mass to the right of the umbilicus and extending up to within an inch of the lower ribs on the right side. Dr. Bell found an area of dulness and resistance extending along the right linea semilunaris upwards to a finger's breadth below the lower border of the ribs and downwards to an inch and a half below the umbilicus. Along the outer border of the mass at the so-called McBurney's point, there was special tenderness, although tenderness existed more or less all over the area of dulness. While concurring in the diagnosis of appendicitis, Dr. Bell felt that the symptoms might possibly be due to other causes such as suppurating gall-bladder or some extravasating condition about the stomach, and hesitated to operate in the country. The patient came to Montreal and entered the Royal Victoria Hospital, when on further examination he had almost made up his mind that the case was one of appendicitis. Upon opening the abdomen, however, he found a very much distended gall-bladder, very red and with friable walls. Upon making a puncture an ounce of clear fluid escaped, then turbid fluid and lymph, and finally, about an ounce of pus. The stone was found to be impacted in the orifice of the cystic duct, from whence it was dislodged with great difficulty.

This case, though one of ordinary gall-stone, simulating as it did so closely an appendicitis, is of more than passing interest to the surgeon who is now-a-days so often called upon to operate for appendicitis. The stone was an inch in length, three-quarters of an inch in breadth, and half an inch in thickness, being somewhat oval and slightly flattened, and has truncated extremities, one of which was directed into the cystic duct and the other into the cavity of the gall-bladder.



MONTREAL CLINICAL SOCIETY.

Stated Meeting, January 6th, 1894.

JAMES JACK, M.D., PRESIDENT, IN THE CHAIR.

Compound Comminuted Fracture of Humerus at Elbow Joint.—Dr. W. F. HAMILTON brought before the Society a boy whose left elbow joint had been crushed by a cart wheel passing over it on August 30th last.

On enlarging the wound he had found the line of fracture to be V shaped, the apex downward between the condyles, both of which were broken off from the shaft. In order to bring the ends properly together he had been compelled to resect ¾ of an inch of the shaft. The condyles were then sutured to the shaft by means of two silk sutures. After a drain of moist iodoform gauze had been inserted and the skin wound sutured, the arm was put up in an anterior card-board splint in the semi-prone position. It was dressed on the 14th and 17th days. Passive motion was started on the 25th day, the patient being discharged on the 30th day. The arm was ¾ of an inch shorter than the right. There was fair power of rotation, flexion and extension being limited.

Remarks on the case were made Drs. Allan, Morrow, Tatley and England.

Post Puerperal Tubercular Pneumonia.—An interesting case report on this subject was presented by Dr. ENGLAND.

The patient IV. Para., aged 29, was confined on Oct. 16th. The labour was easy and the convalescence all that could be desired till the 12th day. On that day she suffered from severe headache, and her temperature was found to be 103°; pulse, 120; respiration, 32. The abdomen flaccid and the lochia normal. Examination of the chest revealed the presence of subcrepitant rales in the right infra-clavicular region. No dulness. Three days later cough began and dulness could be made out in the above area. This condition gradually extended till the whole lung was involved, and a patch of dulness appeared in the axillary region of left side, with some evidence of pleurisy. The expectoration was extremely scanty and it was only with difficulty enough could be obtained for a microscopical examination, which revealed the presence of large

numbers of bacilli tuberculosis. Death resulted five weeks after the onset of the symptoms.

Dr. England referred to the difficulty of diagnosis in these cases, and believed they are of much more frequent occurrence than is commonly recognized.

An interesting discussion followed the reading of the paper. Several members mentioned having seen cases of the same kind where the disease had afterwards become chronic and the patient lived for years.

Malaria in a Child Fifteen Months Old.—Dr. ORR had met with the case during the Summer. The child had been taken by its parents to an American seaside resort near New York, where the disease had been contracted. The type was tertian, a definite cold stage being followed by high temperature, profuse sweating and exhaustion. Diagnosis was rendered certain by the fact that quinine completely dispelled the attacks.

Dr. C. W. WILSON then showed a series of photographs of a child aged 8 years, on whom he had performed a simple osteotomy for rachitic deformity of the tibia, with very satisfactory results.

After the discussion of some general business the meeting adjourned.

Stated Meeting, Jan. 20th, 1894.

JAMES JACK, M.D., PRESIDENT, IN THE CHAIR.

Death from Rupture of a Vessel in the Pia Mater.—Dr. MARTIN showed the brain from a man aged 62 years. While walking in the street the patient had fallen unconscious and had been removed to the hospital, where he died in a few hours. Post-mortem revealed general arterio-sclerosis, fibroid spleen, interstitial nephritis and a pneumonic condition of the left lung. On opening the skull a large quantity of blood and clots were found in the sub-dural space; the source of the hæmorrhage being a ruptured vessel in the pia. A small cyst the size of a pea was found in the corpus callosum with a patch of white softening just below it.

DR. MARTIN showed some specimens from a child, aged 4 years, who had died suddenly while in apparent good health. The glandular system generally showed evidence of marked

hypertropy. The brain was hyperæmic. The microscope showed no evidence of tumour formation in the glandular enlargements, and he was at a loss to account for the condition.

Dr. CAMERON mentioned that scarlet fever had been in the family some weeks before. The child had suddenly become unconscious and died before he reached the house.

Dr. BROWN suggested that the child had died from the poison of scarlet fever overwhelming the organism, and mentioned having met with similar cases during the present epidemic.

A Case of Tonsillitis.—Dr. TATLEY presented the report of a case of tonsillitis with erythema. The fact that even with considerable force there was no exudation on the enlarged red tonsils and the presence of the rash led him to diagnose scarlet fever, but the next morning the rash had faded, the temperature was normal and the throat symptoms much improved, so he came to the conclusion he had to deal with a rheumatic tonsillitis.

The discussion which followed was taken part in by nearly every member present. Some held that the case had been one of mild scarlet fever, others favored a diagnosis of grippe, while many sided with Dr Tatley.

After some matters of business had been attended to, the meeting adjourned.

Stated Meeting, Feb. 3rd, 1894.

THE VICE-PRESIDENT, DR. SPRINGLE, IN THE CHAIR.

Appendicitis.—Dr. SPRINGLE presented an interesting paper on this subject. He condemned very strongly expectant treatment, and held that surgical procedure should be adopted as soon as a diagnosis could be arrived at, the earlier the better the chance for success.

Dr. MORROW—Considered that Dr. Springle looked on the subject from an ultra-surgical point of view. He wished to uphold the medical treatment of appendicitis. The treatment by purgatives he considered to be irrational. The formation of adhesions about the inflamed appendix was to be encouraged, and he considered starvation and opium met this indication. But a small proportion of the total number of cases of this

affection ever require that a surgeon should be called in consultation.

Dr. GUNN was of the opinion that Dr. Morrow had swung too far over to the medical side of the question. He desired to take his stand about half-way between the two previous speakers. He mentioned a case that had recently come under his observation where after treatment by opium etc., had procured marked alleviation of symptoms, a rather rough examination of the abdomen caused a recurrence of the symptoms to such an extent that an operation was resorted to. The appendix was found to be in a state of simple catarrhal inflammation.

Dr. BROWN dwelt on the various and sometimes very unexpected site of pain in these cases. Mentioned a case where disease of the appendix manifested itself a few days after confinement, rendering the diagnosis from septic infection very difficult. He thought opium should be resorted to at first, and if marked relief did not follow in 8 or 12 hours he would advise operation.

Dr. CAMPBELL thought the risks of opening the abdomen still were sufficiently great to contra-indicate an operation where the symptoms have been very mild.

Dr. SPRINGLE, in reply, stated that mortality when operation was performed early was almost nil. As one cannot be certain of the condition of the appendix from the symptoms manifested he considered operation advisable to ascertain this, and if markedly diseased, its removal was imperative, while if found healthy or only slightly affected, its removal gave the patient relief from a constant menace.

The hour being late, the other items on the programme were postponed to the next meeting.

Stated Meeting Feb. 17th, 1894.

THE PRESIDENT, DR. JACK, IN THE CHAIR.

Dr. HACKETT showed a piece of stone, about 5 c.m. long by 2.5 c.m. in width which he had found in the stomach of a subject in the dissecting room at Bishops College. The subject had come from Longue Pointe Asylum. Two large renal calculi were shown by the same gentleman, he having found them in another subject from the same institution.

Notes on Some Complications and Sequelæ of Influenza.—Dr. ALLAN presented a short interesting paper on the above subject. He followed Dr. Althaus' classification of the various manifestations following an attack of influenza. Neurasthenia, hypochondriasis and melancholia were the most common forms of nervous disorders manifested. He mentioned having met with several cases of more or less severe neuritis as a sequel to influenza. Quinine alone or in combination with antifibrin has proved of great value in the treatment of these cases.

Drs. Campbell, Blackader and Cameron then discussed the paper, mentioning several cases that had come under their observation. Their experience coincided with that of Dr. Allan.

Ptomaine Poisoning—By Dr. Vipond. (See page 739 of the April number.)

A Rare Form of Stomatitis with Cutaneous Complications.—Dr. HAMILTON then read a very interesting case report on the above subject. (See page 741 of the April number.)

Dr. CAMPBELL then showed two pulse tracings he had obtained from a case of scarlet fever where nephritis had come on two weeks after the fever. The tracings showed the high tension, irregularity and intermittency of the pulse very clearly. The condition lasted six days, and the child made a good recovery. Henoch mentions the condition as being somewhat rare.

After a few remarks by Drs. Vipond and Blackader the meeting adjourned.

Selections.

Bread Substitutes in Diabetes.—Saundby (*Birmingham Medical Review*, May. 1893), says :—There is no greater difficulty in the management of a case of diabetes than the provision of an acceptable but harmless substitute for bread ; and, although there is no lack of articles which pretend to supply this want, they vary considerably in their mode of preparation, and some, as was pointed out by the *Lancet* last year, are neither more or less than frauds. The writer has given up the use of gluten bread because (1) the best contains nearly thirty per cent. of starch ; (2) it is very unpalatable, and (3) it is very expensive. He states that there are many cases of diabetes in which it is absolutely necessary to stop the supply of starch as well as sugar, and where it is important to use a substitute which contains no sugar or starch at all. For this purpose he recommends Clark's Starchless Biscuits, which are specially manufactured in West Brighton, Sussex. For those who are unable to obtain these biscuits, cakes made from ground almonds form an excellent substitute. The directions for making them are as follows : Take one pound of ground almonds, four eggs, two tablespoonfuls of milk, and a pinch of salt ; beat up the eggs, and stir in the almond flour ; divide in twelve flat tins, and bake in a moderate oven for about forty-five minutes. The weight of the cake will be about one and a half pounds.

As a substitute for these ground almonds, cocoa-nut cakes may be made as follows : Take three-fourths of a pound of the finest dessicated cocoa-nut, one quarter of a pound of ground almonds, six eggs, one-half a teacupful of milk ; beat up the eggs, and stir in the cocoa-nut and almond flour ; divide into sixteen flat tins, and bake for twenty-five minutes in a moderate oven. The weight, when baked, will be one and a half pounds. Two additional eggs may replace the milk with advantage, but they would increase the cost slightly. These ingredients are within the reach of the poorest patients. The cakes keeps well for a week. They may be sweetened, if desired, with glycerine or saccharine.

Iceland moss forms a palatable article of diet, and may be

made into a pudding, which diabetes appreciate very much. It may be made absolutely free from anything harmful to them.

A Case of Tumor of the Thalamus Opticus.—A. L., aged eighteen. Father died of phthisis. The earliest symptoms of his present illness appear to have been peculiar paroxysms in which there was first an olfactory sensation of some kind, and then a sense of bewilderment, followed by headache. These attacks were first observed in May, 1890, and recurred from time to time for several months. Since these attacks first appeared there has been more or less headache, not constant, and, probably, for the largest part not severe. He has had occasional attacks of sudden vomiting, usually not preceded by nausea. For a few months there has been a degree of right hemiparesis. A month ago he spoke of double vision and then of impaired vision. Within a week it was found that there was blindness in the left eye, left hemianopsia in the right, and choked disc in the latter eye only. The patient has been in bed one month, and a degree of hebitude has been noticeable.

Status, November 15, 1892.—Patient is pale, rather poorly nourished, lies quietly in bed, answers questions clearly, but does not speak unless spoken to. The nurse says he lies thus all day, makes no complaints, and gives no manifestations of suffering. He sleeps fairly well. Pulse 60 per minute, fair volume; tongue slightly coated; tremulous. When asked says he has pain in the back of his head. No localized tenderness over the skull. There is paresis of the muscles of the right side, that is, of the face, and upper and lower extremities. In the face the paresis is more noticeable in laughing than in voluntary acts, like showing the teeth. There is paralysis of the right abducens. The other lateral movements of the eyes are somewhat restricted; when the eyes are turned to the left there is slight nystagmus in the right eye. No apparent impairment of cutaneous sensation. The sense of smell is less acute in the left nostril than the right, the sense of hearing less acute in the right ear than the left. Left eye blind or nearly so (blinks when eye is struck at). With the right eye he sees objects only when in the outer half of the field of vision; even

here vision is very imperfect. No effort was make to outline the visual field, which the mental condition and imperfect vision would have made futile. Left optic disk was quite normal in appearance; the right presented a very pronounced choked disk. The urine had a specific gravity of 1012, an acid reaction, and contained neither albumen nor sugar.

Of the history subsequent to my visit I can only say that he soon became altogether blind, that he gradually failed in strength, never had convulsions, and died January 25, 1893.

The following is the report of the post-mortem examination kindly sent me by Dr. S. W. Holloway:

"On lifting the skull-cap the dura was found to be congested, the bone normal. On removing the brain the membrane was adherent at the anterior portion and to the right of the middle fossa The pia was intensely congested and reddened, at some places slightly thickened, under which was a milky fluid, moveable on pressure. Cephalorachidian fluid slightly increased. Entire brain somewhat œdematous

"On opening the descending horn of the left lateral ventricle there appeared a mass projecting from below upwards into the cavity of the ventricle. On turning the brain over this mass proved to be the left thalamus opticus. On cutting into it it seemed to the unaided eye to be a glioma, a jelly or glue-like mass, filled with numerous small red spots, like grains of red pepper, probably minute hemorrhages into the friable new growth. The latter occupied the posterior portion and base of the left thalamus, replacing the normal structure of this body, and measuring one inch in its long axis, by one-half inch across. It had no capsule, but merged gradually into the surrounding tissue."

"Nothing else of importance was noticed at the examination."

But little is known of the physiology of the thalamus. Its lesions are sometimes latent; again, the symptoms produced are due to direct or indirect involvement of other parts. In this case, though the lesion was apparently limited to this ganglion, the symptoms were mostly not directly due to its injury. But one symptom is, probably, directly due to the lesion of the thalamus, and therefore, an expression of its physiological function, and to this symptom, which has rarely been

observed, I wish to call special attention. I refer to the observation that the facial paralysis was more marked in the act of laughing than in the voluntary act of showing the teeth. Nothnagle, in his classical work, *Topische Diagnostik der Gehirnkrankheiten*, makes the hypothesis, though he has no direct observations on which to base it, that the thalamus controls the expression of the emotions. Subsequently, Bechterew, in his experiments on animals, found that destruction of the thalamus caused no paralysis of voluntary muscles, but the animals were unable to give expression to their emotions; while lesions on some parts of the motor tract, but not involving the thalamus, caused hemiplegia, but in no way interfered with the expression of the emotions. Very few observations of this kind in man have been made, for which reason I wish to give special prominence to the symptoms in this report.

Another symptom to which I wish to call special attention is the choked disk in only one eye. This is also rare; if found at all we usually find double optic neuritis. Has this symptom any local significance, that is, as to the seat of the brain tumor? I recall having seen but one similar case, one of Hughlings Jackson, in London. In that case the tumor was on the side of the brain opposite the neuritis. This was also true of the case just reported, the tumor being in the left thalamus, the neuritis in the right eye. Does this symptom, then, signify that the tumor is situated on the opposite side of the brain?

Optic neuritis frequently causes no impairment of vision. That fact was easily demonstrable in this case, where the eye, with a normal optic disk, was already blind, while there was still vision in the one with optic neuritis. I have frequently had occasion to call attention to the fact that rapidly setting-in blindness, in cases of brain tumor, has a local significance; that is, that the tumor is so situated as to cause effusion into the ventricles. In this instance the blindness was probably due to pressure on the optic tracts by the distended third ventricle. That vision was longest retained in the nasal segment of the right retina was doubtless an accident, due to the manner of that pressure. The thought might occur that the hemianopsia (in one eye) was from the disease in the thalamus.

for the optic tract, in part, terminates in that ganglion. (The optic tracts terminate—or have their origin—in the posterior part of the thalami, the anterior corpora ulate bodies, but to the largest extent in the latter.) To what extent a lesion of the thalamus, in itself, might produce such a symptom, is not yet known, but that it did not do so in this instance is manifest, for vision was longest retained in the left half of the retina, the part that should be in relation with the affected thalamus.

The motor symptoms are, doubtless, altogether indirect ones; the hemiparesis from pressure upon some part of the motor tract, the paralysis of the abducens from pressure upon that nerve (compressed between its bony bed and the distended dura at some point.)

When I saw the patient I supposed the olfactory manifestations, the peculiar paroxysms at the beginning of the disease, and the slight impairment of sense of smell in the left nostril, had some special significance. But the post-mortem examination did not throw any light on that point, and these symptoms (their history was not altogether clear), as well as impaired hearing in the right ear, may have been related to a nasal catarrh, for which the patient had at one time been treated.

Finally, I will merely refer to the absence of intense headache, and its connection with the location and manner of growth of the neoplasm, which only to a slight extent produced irritation in the sensitive dura.—Dr. Philip Zenner, in the *Cincinnati Lancet-Clinic*, July 22, 1893.

An Observation of the Effects of Erysipelas on Epithelial Cancer.—About eighteen months ago my attention was called by Mr. M. to an ulcer nearly opposite the ear, on his right cheek. This ulcer was one and a half inches in longest diameter, one inch in the shorter, presenting an oval with irregular edges. The discharge was slightly purulent, tinged with blood. The granulations were soft and bled on the slightest touch.

Mr. M. stated that twenty years ago there appeared at this point a small elevation, which frequently formed a scab, which every ten or twelve days would fall off and then re-form, giving but little trouble and received but little treatment.

Nineteen years ago he was treated for a time with ointments and lotions, also some medicine was administered without special benefit. He was assured that this was skin cancer and incurable. The ulcer gradually increased in size and depth. Some benefit was derived from a lotion of zinc sulphate and salt, dissolved in water to make a mild astringent solution. The ulceration, however, continued giving inconsiderable pain, but much annoyance by its presence. The good man quietly accepted the situation, seeking only palliation and relief from pain.

About November 12 he suffered from an attack of erysipelas of the face. This ran no unusual course, spreading rapidly from tip of nose over scalp to nape of neck. The efflorescence was followed by disquamation. The external dressing was of ichthyol and lanolin, which seemed to give relief and comfort.

As the erysipelas faded out, the desquamations following the ulcer seemed to assume a more healthy appearance. Granulations of a more normal character developed and in about two weeks the ulcer was entirely healed. The cicatrix on March 1 is slightly indurated, but smooth and firm, presenting the appearance of normal cicatricial tissue.

The case is reported without special comment. Dr. Coley, of New York, has written on this subject with considerable interest.

The writer is well aware that a single case from the practice of a surgeon is but of little value, isolated and alone, but hoping that others may add their experience and observation the case is reported for consideration.—Dr. James Collins in the Philadelphia *Times and Register*, April 28th, 1894.

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A NATIONAL BUREAU OF HEALTH FOR CANADA.

The movement in favour of the establishment of a National Bureau of Health for the United States, which is one of the practical results of the "cholera scare" of 1892, seems to be gaining ground rapidly. A bill has been introduced in Congress to enable the national executive to create a bureau which, without interfering with or hampering the action of the local health boards, shall support, and co-ordinate their efforts and so make their influence greater. Except in matters of quarantine and vital statistics, the duties of the new bureau are intended to be largely advisory, but the benefit of some such central organization must be apparent to all. There is every prospect that this bill will soon become law.

We take this opportunity of urging the necessity of Federal legislation of this nature being enacted in Canada. For some occult reason, at the time of federation all jurisdiction in sanitary affairs with the single exception of quarantine, was completely relegated to the provincial governments, who in their turn ceded all these powers to the municipalities. That this policy of shifting the responsibility was a most short sighted one is shown by the fact that before long it become necessary to create provincial health boards to watch over and stimulate the municipal boards; a duty which has been done on the whole admirably, and which has prevented localities suffering from infectious diseases from inflicting them unnecessarily upon their neighbours.

There is, however, a very evident need of some higher

central authority to ensure greater uniformity of action among the provincial boards and the duties of a National Medical Bureau need not be limited to the regulation of infectious diseases. In the matter of vital statistics, for example, the necessity of some uniform system of obtaining and utilizing information cannot be disputed and in order to obtain this information a uniform system of death certification is indispensable. If each province uses a different system of classification, and obtains its information by divergent methods, comparison of the results becomes difficult or impossible. In dealing with epidemic diseases, there is the greatest necessity of the various provinces keeping in touch. The medico-legal side of criminal law and questions of medical education could also receive attention from such a medical bureau of health. In Germany, France and Denmark, and to some extent in England, the National Health Bureaus are great centres of medical and hygienic investigation, whose publications are among the most important which we possess. The same might be the case in Canada, if a Federal Health Office were established, which should be not a mere advisory board, but an organization with well equipped laboratories, conducted in the same manner as the Dominion Experimental Farm or the Geological Survey. Reliable experiments with stock, seed, plants, dairy processes and agricultural interests of all kinds are constantly being made at the former institution, while by means of the latter the mineral wealth of the country is rapidly becoming known. In sanitary work, on the other hand, every health board is obliged to find its own way by the light of bitter experience, without guidance and without aid.

We have ministers and departments for pretty nearly everything except public health, and yet in the health of a country lies the essence of its prosperity. We have doctors galore in both federal and local parliaments, nearly fifty in all, and surely it is their duty to obtain some suitable sanitary legislation.

We are glad to see that a move has been made in the direction of centralization in the appointment of a Dominion Superintendent of Quarantine, and this office might be made the nucleus of a department which would regain the ground lost when sanitary affairs were released from the national control

at the time of federation. We learn of preliminary steps towards establishing a Dominion Bureau of Vital Statistics. Reference to some of the vital statistics, obtained by census methods shows clearly the necessity of such information being obtained by some more reliable means than those at the disposal of the census enumerators. We venture to think that if the medical profession, through the various health boards and scientific societies move energetically, their action would soon result in the formation of a Dominion Board of Health.

PROPRIETARY MEDICINES.

The " patent medicine man" is fast becoming a nuisance in the land where he has long been a power. He gets up an alleged medicine for the healing of the nations, and straightway goes forth to visit all the doctors. He presents them with sample bottles, he tells them what is in these bottles, being careful to suppress the quantities and the exact composition, at the same time impressing them with the important fact that no one else can prepare this medicine, either for want of skill or want of materials or apparatus. Finally he insinuatingly requests, as a return for the amount of the doctor's time that he has wasted, the small favor of a testimonial setting forth the merits of the preparation and its extreme usefulness in various diseases, and the wearied doctor hesitates and is lost. To get rid of his persecutor he signs.

This has been glaringly exemplified in a recent case, so much so that the Montreal Clinical Society, at its meeting on April 7th, passed the following resolution :

" That it is reprehensible for members of this Society to give certificates, which may be published in the medical or lay press or in pamphlet form, attesting the efficacy of any preparation, of which the *ingredients are known*, compounded by any firm of manufacturers who claim to be the only ones capable of preparing the said combination, either from the possession of superior apparatus or extraordinary chemical skill, or from any other reason.

" Such certificates only further the selfish ends of the manufacturer, and no special benefit accrues therefrom to the practice of scientific medicine.

"But should the members of this Society consider that such a preparation is of value, they are at perfect liberty to further its use, by prescribing it for their patients."

Why should members of the medical profession lend themselves to the manufacturers and without money and without price help on the sale of some preparation, for the composition of which there is no standard, and consequently no guarantee that it always contains the same proportions of the ingredients or even the same ingredients.

We ask all our readers to carefully think over the resolution, and when next the agent comes for a certificate, politely but very firmly decline.

A SENSIBLE CORONER LAW.

The following recent addition to the laws of Georgia, designed to remove the abuses of the coroner system there, though it has only been a short time in operation, has been found to work very satisfactorily, and has reduced the expenses of the office one third. It was drafted by Judge Wm. Eve, of Augusta, Ga., and passed in 1893 by the State Legislature.

"*Section* 1.—Be it enacted that in counties having a popu-
" lation of 40,000 or more, and not having any other officer
" appointed for the purpose: upon recommendation of the
" grand jury, the officer charged with the management of
" county affairs may appoint for one year, at a compensation
" fixed by such officer or officers, a physician to the coroner,
" whose duty it shall be to perform all the post-mortem ex-
" nations required by section 4109 of the Code of 1882, and to
" accompany said coroner in all inquests and testify as to the
" cause of death. Said physician shall prepare a careful written
" opinion as to the cause of death in each case and shall file
" the same with the coroner as part of the inquest.

"It shall be the further duty of said physician to investigate
" the cause of death of all persons dying suddenly in the
" county without the attendance of a physician and report the
" same to the coroner. Said physician shall furnish a burial
" certificate when directed to do so by the coroner, whether
" an inquest be held or not.

"Said physician shall also make to the county authorities a

" monthly report, giving the number of inquests held and the " result of each inquest, the number of cases investigated of " persons dying without the attendance of physicians and " the cause of such deaths." (*Georgia Laws*, 1893, *Part I.*, *title* 10.)

RESIGNATION OF DR. PEPPER.

On April 23rd, Dr. Pepper resigned the position of Provost of the University of Pennsylvania, a position he had held for thirteen years. While retiring from this office he does not leave the University, but will devote his time to medical teaching and practice. During his reign the affairs of the University have prospered to a marvellous extent, as an example of which we may state that from 1881 to 1894 the value of the lands, building and endowment have increased nearly four-fold, while the number of teachers in all departments has increased from 88 to 268. Dr. Pepper gives as his reason for retirement, " It has now become necessary for me to choose between administrative work and medical science. My devotion to the latter has determined the choice."

The University is to be congratulated on having such a friend, even while losing him as provost.

Public Health.

The following circular, published in French and English, has been issued by the Board of Health of the Province of Quebec for free distribution. Copies may be had by applying to the Secretary at No. 76 St. Gabriel St., Montreal.

WHAT IS AT PRESENT KNOWN OF TUBERCULOSIS AND THE MEANS OF PREVENTING ITS CONTAGION.

Tuberculosis is best known to the public during the last period of the disease that is to say, the period of softening and breaking down of tuberculous tissue. It is commonly called consumption.

That the lung is not the only organ liable to become tuberculous is abundantly demonstrated by the numerous cases of tubercular meningitis, tuberculosis of the bowels, of the bones and joints, while scrofula is merely another manifestation of tuberculosis.

FREQUENCY OF TUBERCULOSIS IN MAN.

Of all diseases Tuberculosis is that which claims most human victims. Statistics show that it causes one sixth of all deaths throughout the civilized world. 15,795 deaths were registered in the Province of Quebec during the last six months of the year 1893, and 1256, or about 8 per cent., were shown to be caused by tuberculosis.

PROPAGATION OF TUBERCULOSIS.

Tuberculosis is a germ disease and is consequently contagious. Its germ or microbe may be transmitted, 1st by heredity, 2nd by inhalation of air containing these germs, 3rd by means of contaminated food (especially the milk and meat of tuberculous animals), 4th by absorption through a wound (inoculation).

Heredity.

Until recently it was believed that most consumptives owed their disease to heredity, and when the father and mother proved to be above suspicion, there was no hesitation whatever in enquiring about the preceding generation.

At the present time, *without denying the possibility of the germ of tuberculosis being sometimes transmitted by heredity,*

tuberculosis has been found in the still born child, heredity has no longer the same importance, and only a very limited number of cases of the disease is now credited to it.

"Modern science," says Rens, "does not deny the numerous facts by which the influence of heredity evidently shows itself, but explains them in quite a different manner to what was done formerly. What tuberculous parents transmit to their child is not, in most cases at least, tuberculosis itself, but a feeble constitution, forming a most favourable soil to receive the microbe of tuberculosis, unable to resist its attack, and presenting for its future growth the best breeding ground possible. Although the parents do not transmit this microbe to their child with their blood, they unfortunately spread it in their neighbourhood as they are phthisical, so that their child is in most favourable circumstances to receive and communicate it in the same manner to its brothers and sisters, who in their turn die, not by heredity, but by infection."

2. *Inhalation of Air containing the Germs.*

The breath of consumptives is not in itself infectious, but it is otherwise with regard to their sputum, which, once dried, liberates a great number of microbes or germs, which like other fine particles of dust, pass into the atmosphere and contaminate it. In this polluted air, predisposed persons become unconciously infected with tuberculosis.

This mode of transmission of tuberculosis is by far the most frequent and to it is now attributed most of the cases formerly ascribed to heredity. The frequency of this mode of infection is easily explained. Consumption not being a disease which necessitates remaining indoors, tuberculous patients infect with their sputum their dwelling and the places they visit. They thus become ambulating sources of infection polluting every thing in the way—streets, public gardens, tramways, theaters and even churches. According to Billings. the city of New York must have permanently within its limits 11,000 of these ambulating cases. Adapting his figures to Montreal and Quebec, the number of consumptives would be about 1,600 and 500 respectively for the two cities. If. as Bollinger says, the daily expectoration of one patient may contain as much as twenty millions of germs, one can easily

imagine the amount of danger continually contributed by tuberculous individuals whom neither hygienic considerations nor good breeding prevent from spitting on the floor or ground wherever they happen to be and who thus spread infection right and left. (1).

3. *Ingestion of Contaminated Food.*

Milk, cream or butter from a tuberculous cow contains and may transmit the germ of the disease. It is now demonstrated that the transmission may take place without any tubercular lesion in the udder, which was formerly regarded as an essential condition. Such transmission by milk explains the frequency of tuberculosis amongst children.

The meat from a tuberculous animal may also transmit the germ of the disease, and it does not seem to be demonstrated that only the parts which are tubercular are dangerous.

The frequency of tuberculosis amongst animals is not the same in all countries. Of 1058 cattle examined in Germany by Kopp, 738 were found to be tuberculous. Amongst the animals slaughtered at the abbatoirs of Berlin, during the two years 1887-88, 4,300 were tuberculous. Osler estimates the proportion of tuberculous cattle in the Eastern States of the American Union at from 10 to 15 per cent. Of 13 heifers apparently in very good health examined by Saunders & Robertson of the experimental farm of the Department of Agriculture at Ottawa, five were found to be tuberculous.

4. *Inoculation.*

The germ of tuberculosis may be absorbed through a wound, especially after an operation or an autopsy, though this seldom occurs.

PREDISPOSING CAUSES OF TUBERCULOSIS.

As is the case with any other infectious disease all who become in contact with the germs of tuberculosis do not take the disease, unless they are predisposed to it and therefore in a specially susceptible condition.

(1) On this subject, Armingaud says:—Neither the presence of a consumptive nor his contact are dangerous, it is neither his person nor his breath that are noxious, and we can talk during long hours with him, live with him for years, and nurse him most attentively without serious danger provided certain precautions are taken, the most important of which is to collect his sputum and not to wait until it is dried and carried into the air as dust before destroying it.

The following are acknowledged as predisposing causes: 1st heredity; the most important. Without always transmitting the infectious germ (heredity of seed) tuberculous parents often produce children with feeble constitutions (heredity of soil) who thus fall easy victims to the germs of tuberculosis.

2nd. Certain diseases, such as diabetes, measles, whooping cough, typhoid fever, bronchitis and broncho-pneumonia. Thus the statement that "a case of typhoid fever has turned into consumption" has some truth in it, as the feebleness which follows typhoid fever favors the absorption of the tuberculosis germ.

3rd. Living in unsanitary, over-crowded, ill-ventilated and damp dwellings. It has been frequently observed that, after draining a city, the death rate of tuberculosis had been considerably reduced.

4th Professions and trades which require a daily attendance in overcrowded ill-ventilated rooms; especially occupations which require a sedentary life, fatiguing positions etc., as in the case of tailors.

5th. The attendance in work-shops where the air is always dusty or in workshops where the air is very warm or where steam escapes. The dusty atmosphere of the former and the issuing from the hot and steamed air of the second often cause bronchial or pulmonary affections which predispose the lung to absorption of the germ of tuberculosis, probably by denuding it of its epithelium (Dieulafoy).

6th. Mal-nutrition from insufficient or unhealthy food; excesses, exhaustion from repeated pregnancies, prolonged lactations, anxiety, mental and physical overwork, &c.

HAVE WE ANY MEANS OF DIMINISHING THE DESTRUCTION CAUSED BY TUBERCULOSIS, AND OF PREVENTING ITS CONTAGION?

Certainly we have, especially when, as is now the case, we know that heredity has but a secondary importance in the propagation of this disease and that when *contagion occurs it is usually only because individuals of feeble constitution (whether hereditary or acquired) cannot resist at a given moment the* influence *of the germs which constantly surround them.*

The measures to be taken to prevent the development or

the contagion of tuberculosis consist: 1st in combatting predispositions in whatever form they exist: 2nd, in limiting the number of contagious foci constantly created by consumptives: 3rd, in preventing the use of food capable of reproducing the disease.

1. *Hygienic Treatment of Children Born of Tuberculous Parents.*

This must begin at birth. If it is the mother who is tuberculous, she must not nurse the child. If possible, the child should be brought up in the country and better still, if possible, near the sea, or at least make long stays in the country, as the dangers of contagion are less frequent there than in cities. Any sign of feebleness such as rachitis, anæmia, enlarged glands, &c., should receive due attention. Diseases of the respiratory tract should be most carefully attended to, as they may directly prepare the soil preferred by the tuberculous germ. Later the person should be advised to chose a profession that will make him lead an out door life and he must as much as possible be kept away from dusty workshops or those in which there is a high temperature and in general from overcrowded and ill-ventilated workshops.

2. *How to Prevent or Lessen the Infection of the Healthy by the Sick.*

As, practically, (1) it is only by the dust of his dried sputum that the tuberculous patient may transmit the disease, it follows that *if his sputum or the things contaminated by it are destroyed or disinfected before they have had time to dry the patient ceases to be a source of infection, to those who come into contact with him.* This disinfection must be a persistent one, that is to say it must be done not only in the home of the patient, but also at any place he visits.

At home the patient should spit only in spittoons or bowls, cups, partially filled with water, or better with a disinfecting solution (2) so as to keep the sputum in a moist condition.

(1) The excreta of a tuberculosis patient may contain the germs of tuberculosis if the patient swallowed his sputum or if the intestine itself be in a state of tuberculous ulceration. For this reason all linen or clothing which have been thus contaminated must be well boiled.

(2) For instance: Bichloride of mercury 2 drachms, dissolved in one gallon of water.

Spittoons filled with saw dust, ashes or other such matter are dangerous as they favour the drying of the sputum. The cups or spittoons are to be emptied daily into the fire or, if found more convenient, they may be filled with boiling water and subsequently emptied in the sewers, but never on manure piles in the yards or gardens, where those germs which escaped destruction might contaminate the air or infect the fowls picking about and eating them. (Congress of Tuberculosis, Paris, 1888)

When the patient leaves his home and whenever he finds himself in a place where there are no spittoons, or, what comes to the same thing, if these are not emptied regularly enough to prevent the dessication of the sputum, he should use a pocket spittoon or a handkerchief. The handkerchief should be put in boiling water at the first opportunity, so that the sputum will not have time to become dry.

It is most desirable that more spittoons should be provided in public places. They are specially needed in railway stations, passenger cars and factories, where their presence, perhaps, with the aid of appropriate placards, would soon educate the public to their habitual use.

The room of the patient must be large and sunny, and if possible should not be papered. The curtains should be made of some fabric which can be washed in boiling water, the floor should be waxed or covered with oil cloth,—in a word there should be taken out of the room all that cannot be cleansed with a wet cloth, and dry dusting and sweeping should absolutely be abandoned as displacing and giving motion to the germs that had settled on the floor or objects contained in the room. The wet cloths used in cleansing must be boiled before drying. Body and bed linen must always be boiled in the process of washing. All these precautions taken with regard to the patient are to his advantage, as they increase his chances of recovery by preventing self inoculation. (1)

If the patient dies, or changes his residence, the safety of the

(1) If no mention is made here of the excreta of tuberculous patients, it is because when thrown into the sewers or cesspools as it is usually done, the germs are very soon destroyed (Armingand). It must not be forgotten however that the patient can soil his linen and bedding so that in such circumstances the excreta become as dangerous as the expectoration. This soiled bedding and clothing must be disinfected by boiling.

persons living in the dwelling demands that the room of the patient with its contents, furniture, linen, bedding, clothing, &c., be disinfected (1). Wool and cotton tissues should be boiled or passed through a steam disinfector. The floors, walls (papered or not) should be washed with a disinfecting solution. All pieces of furniture or other things which are not passed through the steam disinfector should be washed with disinfecting solution.

3. *Prevention of the Use of Food Capable of Reproducing the Disease*

mostly belongs to municipal authorities. They should inspect the dairies and give or continue licenses only to those milkmen whose animals are found healthy.

The practice of giving only boiled milk to artificially fed infants is becoming more general. There is certainly no better precaution against tuberculosis than by boiling the milk and this moreover renders its digestion easier (Drouet).

There can be no adequate control over the meat supply if it is not inspected and stamped previous to being offered for sale. The stamping is indispensible as it is the only way for the public to know that the meat which is offered for sale is that which has been examined. The establishment of public abattoirs renders the control of the meat supply much easier for the municipal authorities.

The regular inspection of cattle throughout the Province by competent veterinary surgeons and the slaughtering of animals found to be tuberculous complete, the measures necessary to prevent the use of tuberculous food, and in addition would also prevent the propagation of the disease amongst our herds.

KOCH'S DISCOVERY OF TUBERCULINE.

In 1890, Koch announced to the world that he had discovered in tuberculine (2) a specific remedy which destroyed tuberculous tissues. Unhappily the experiments with his tuberculine did not have the effect anticipated, for while in

(1) The local Boards of Health of the cities of Montreal and Quebec have undertaken to disinfect, free of charge rooms which have been occupied by consumptive patients when requested to do so.

(2) Tuberculine is a glycerine extract of cultures made of the germ of tuberculosis (tubercle bacillus).

some cases good results seemed to follow its use in many instances the symptoms were aggravated. At present Koch's lymph is merely employed to diagnose tuberculosis amongst animals (1) though according to Strauss & Teissier, this method is not absolutely sure, the febrile reaction which follows the inoculation with tuberculine not showing itself in tuberculous subjects but having been observed also amongst subjects affected with other diseases. Klebs has eliminated some of the noxious constituents of tuberculine and the experiments with his "tuberculocidine" have given better results than those of Koch's tuberculine. Spengler combines tuberculine and tuberculocidine and obtains thereby good results.

All this seems to indicate that we are getting nearer to the discovery of a specific, and the only reproach we can make against Koch is that of having given us permaturely, facts not thoroughly studied.

However, as this discovery is far from being complete, and is likely to remain so for some time to come, the surest means of guarding against consumption is by following the directions given in this circular.

(1) "When a small quantity of tuberculine is injected under the skin of a tuberculous animal, the temperature of the body rises considerably: while in animals free from this disease, no such effect is produced. The rise in temperature does not take place immediately but occurs between 3 and 20 hours after the injection. The duration of the high temperature also varies." (Dominion Experimental Farm Bulletin).

Obituary.

DR. JOSEPH WORKMAN.

No member of the medical profession in Canada has had so long, and few, if any, so brilliant a career as the subject of the present sketch.

Born at Lisburn, Ireland, in 1805, he had all the qualities of a gifted son of that land which has produced so many around whom fond memories will linger. All the members of his family were endowed with physical vigor, talent and that indomitable energy which is essential to pronounced success.

Dr. Workman graduated at McGill University in 1835, and for years before his death was her oldest surviving medical graduate. Though he practised a short time in Montreal, he soon took up his residence in Toronto, which continued to be his home for fifty-eight years.

The Doctor's strong literary and political tastes early led him into journalism, and the *Mirror* was a powerful reflector of this brilliant writer's views on the questions of the day. In 1836, Dr. Workman became a professor in the Rolph School of Medicine and soon ranked as one of its most popular teachers, winning the grateful esteem of many young men who retained for him a profound respect and almost filial regard throughout their lives. Perhaps no man occupying a place in the ranks of the Canadian profession has ever so attached to himself the young men with whom he came closely in contact. Acquaintance soon grew into friendship, then admiring devotion never to grow less. In 1853, began a new era in this remarkable man's career. He then undertook the management of the Toronto Asylum for the Insane. He found it in chaos, with the prevalence of ancient and irrational methods of treatment corresponding with still more irrational views of insanity itself; and after twenty-two years of service he left the institution, after he had made it and himself famous throughout America at least.

Dr. Workman had resisted all attempts to constitute the institution over which he presided a refuge for political hacks, or in any way to subordinate the interests of his patients, to whom he seemed to be attached as a friend, to considerations

of a political kind. He had also the most intense hatred of every form of sham or pretence. Like every fearless man who is in advance of his time, Dr. Workman had enemies. He was assailed in the press because of his views regarding responsibility in the insane, but all who attacked the vigorous, witty, and, on such occasions, caustic Doctor, did so to their cost, whether through the press or in the witness box. His was a sword " of the ice brook's temper," that never failed to cut deep. He on many occasions championed the cause of the profession, and we are to-day reaping the rewards of his hard fought battles.

From 1875 onward he enjoyed quiet, yet not inactive leisure. Till the day of his death, the latest medical and other literature was to be found on his table. His contributions to the medical press, especially on alienistic subjects, were numberless ; and he was an honorary member of the Medico-Psychological Society of Great Britain and also of Italy.

He was an industrious translator of medical and scientific Italian publications. In fact he translated the whole of the most important contribution that had up to date been made in Italy on the anatomy and physiology of the brain, though for this he never could secure a publisher. Dr. Workman occasionally, when on visits to his relatives in Montreal, attended the meetings of the Medico-Chirurgical Society and was elected an honorary member.

In 1889 his portrait in oil was hung in the rooms of the Toronto Medical Society, a fitting tribute to the Nestor of the profession in Canada, on the very ground on which his battles had been fought and his victories won, and where he rested surrounded by hosts of devoted and admiring friends.

The veteran passed away when quietly sitting in his chair, busy to the last—just as he would, no doubt, have preferred to close the scene. His career has been a great and worthy one, and he has left a record of which the profession to which he belonged may be proud. We have parted with a great intellect—a noble heart !

G. H. RAYMOND, B.A., M.D.

Dr. Raymond graduated from McGill College in 1886, and entered on the practice of his profession in Sussex, N.B. Last year he came to Montreal and commenced to practice at Point St. Charles. Failing health, however, obliged him to give up work and he returned to his home in New Brunswick, where he died on April 15th. Many will grieve to hear of his death, for he had many friends at college. He was very popular, having been elected president of his class, and this popularity continued until his untimely taking away.

Medical Items.

—The meeting of the American Medical Association will be held in San Francisco June 5th, 6th, 7th and 8th, 1894.

—The forty-fifth annual session of the Medical Association of Georgia, was held in Atlanta, Georgia, April 18th, 19th and 20th, 1894.

—The eighteenth annual meeting of the American Dermatological Association will be held at Washington, D.C., May 29th, 30th, 31st and June 1st, 1894.

—Commencing with the July issue the *Archives of Pediatrics* will be edited by Dillon Brown, M.D., Adjunct Professor of Pediatrics at the New York Polyclinic.

—We are glad to notice in the April number of the *Dominion Medical Journal* a well written epitome of Canadian Medical Literature. The style is clear and newsy and makes easy reading,

SOAP AND WATER IN GLASGOW.—In a lecture at the London Institute, on "The Chemistry of Cleanliness," Prof. Vivian Lewes said, when speaking of the wasteful action of hard water on soap: "The introduction of the new Loch Katrine water-supply to Glasgow has saved the city several thousand dollars a year in soap; and, mind you, Glasgow is not a place where they waste soap."

THE DANGER LINE IN ANÆSTHESIA.—From the reports of the Clinical Society of Louisville, as published in a recent number of the *Medical and Surgical Reporter*, we glean the following interesting statements: Dr. Kynett, of Philadelphia, called attention to this valuable sign as the danger-line in anæsthesia: when the addition of fresh ether to the cone fails to produce an up and down movement of the wind-pipe the ether should be withdrawn; when that movement occurs the condition is a safe one.—*National Med. Review.*

A STERILIZATION STAMP.—Dr. H. Hocheegy in a recent number of *The Wiener Klinische Wochenschrift* describes a method whereby he can assure himself that articles of dressing have been sterilized. He uses a yellowish-brown marking fluid which has the property of becoming bright red on exposure to the temperature of boiling water. If the steriliza-

tion is complete, the yellow spots with which the dressing has been marked become red. The colouring matter consists of one hundred and fifty parts of a solution of aluminum acetate, one hundred and fifty parts of water, and five parts of a twenty-one per cent. alizarine paste.—*The Physician and Surgeon.*

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