The Canada Lancet

VOL. XL. JUNE, 1907. No. 10.

ARTHRITIS DEFORMANS.*

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IT will readily be granted that among the unsettled questions in medicine which are in an unsatisfactory state to-day, chronic arthritis occupies a prominent place. We have really advanced very little in the last hundred years, and a saying of Haygarth regarding the unsatisfactory condition of the knowledge of these disorders applies almost as well to-day as in 1805, when he said that the term "rheumatism is applied to many conditions in the joints which only agree in having pain." There are various reasons for this, and first perhaps should be put the use of one term, namely, rheumatism. It is evident that under this heading a number of conditions have been associated which have nothing more in common than that the joints are affected. Unfortunately this always has a certain amount of effect on our views, because give a thing a name and you have to some extent disposed of it; a positive diagnosis, however wrong, is likely to prevent further investigation. It would seem wise to restrict the use of the term rheumatism to the condition known as acute rheumatic fever. If it be employed to designate any form of arthritis, we keep up the confusion of the past and are using it both as a general term for arthritis and also for a special form of arthritis, acute rheumatic fever. The confusion resulting from this is very evident. If the term be limited to rheumatic fever, there seems no reason for the use of the name "chronic rheumatism." There is no evidence that there is any chronic joint condition, which results from an attack of rheumatic fever. The term might be applied to those instances seen in early life, in which a child has a succession of conditions which belong to the rheumatic cycle, such as rheumatic fever, chorea, endocarditis, pericarditis, erythema, etc., but these are rare.

Secondly, perhaps, comes the special difficulty in distinguishing the various forms of joint disease. The whole tendency in medicine has been to separate various diseases, as shown very well in the history of the recognition of various fevers. At one time typhoid, typhus, relapsing and malarial fevers were grouped together. Gradually one after another was separated from the mass. The same thing is true of our knowledge of joint diseases, but here the difficulties seem greater. Diseases are

* Read before the Toronto Medical Society, March 21, 1907.

identified as distinct entities by one of three ways; clinical observation, pathological examination or bacteriological determination. Practically all the earlier work in the recognition of distinct disease was done by clinical methods and then came the application of pathology as seen for example in the separation of typhoid and typhus fevers. Lastly and much more recently came the distinctions due to the recognition of a definite causal organism by bacteriology. It is very evident that of these methods the last is the most certain and the most satisfactory, but necessarily is only applicable to certain diseases.

Now applying these to the solution of the problem concerning arthritis, and taking them in the reverse order, we find that thus far, while bacteriology has been of some help, it has failed us in certain forms of arthritis. Definite recognition of gonococcus arthritis, streptococcus arthritis, etc., can be cited as instances of a satisfactory solution. The second method by pathological examination can afford us but little aid, for arthritis in its various forms is a disease that rarely kills. Of course a certain number die in acute rheumatic fever, but these usually of cardiac complications, some time after the acute joint features have subsided, and then also the joint changes in acute rheumatic fever are of comparatively slight importance. The pathological examinations that are obtained in the chronic forms of arthritis are usually in patients many years after the acute features have subsided and the conditions found are not those of the disease itself, but of its results, a very different matter. Then again another difficulty is that many organisms cause similar pathological changes and one organism causes many different pathological conditions. Take for example the joint changes produced by the pneumococcus, the gonococcus and the streptococcus: so far as pathological anatomy is concerned these changes may be identical. A good example of various changes caused by one organism is seen in gonococcus arthritis; this may be nothing but a very slight inflammatory condition or there may be widespread destruction of the joint with all grades between these two conditions. Therefore, for the present at any rate, we are compelled to depend largely on clinical methods for the distinction between the various forms of arthritis, especially the chronic varieties.

As regards the question of classification of various forms of arthritis, we can tentatively recognize the following groups:

1. Those in which the causal organism has been definitely determined, such as gonococcus and pneumococcus arthritis. The position of this group is settled and requires no discussion. To these the term of infectious arthritis can be applied.

2. Acute rheumatic fever. At present it is best not to consider the etiology of this disease definitely established, although all the evidence

goes to suggest that it is an acute infection and might be placed in the first group.

3. Gout. This is a very definite condition and requires no discussion in this connection.

4. Traumatic arthritis.

5. Arthritis occurring with disease of the nervous system. In some of these, as Charcot's joint, trauma is probably an important factor.

6. Arthritis occurring with various infections, such as scarlet fever, syphilis, etc.

7. Arthritis following the use of serum, that seen in hæmophilia, etc.

8. After these groups are separated there remain a large number of cases of arthritis characterized by a tendency to chronicity and various changes in the joint structures. It is difficult to apply any satisfactory name to these cases, for the present the term arthritis deformans may be used. Not all of the cases go on to great deformity, but the general tendency is towards some permanent change. The names rheumatoid arthritis and rheumatic gout are unfortunate in that they suggest rheumatic associations. The question arises as to whether we have one disease or several under his comprehensive heading. As yet this question is difficult to answer, but judging from analogy the chances are that as time goes on we shall find them being divided into several groups. However, this matters little if we understand that by this term we mean for the present the large group of cases of arthritis which show a tendency to be progressive and chronic, are irregular in their symptoms and rate of advance and have more or less tendency towards permanent change in some of the joint structures.

The importance of the study of this group requires no emphasis to those who are at all interested in joint affections. Comparatively common, occurring at all ages and resulting in much deformity and crippling, anything that we can do to lessen the damage from these lesions is worthy of attention. A visit to the wards of any institution where chronic conditions are treated will convince one of the terrible deformity that may result.

The etiology of this group is as yet in an uncertain condition, but we are gradually getting help on certain points, which seem well established. It seems important to make one point clear, namely, that there is not the slightest evidence that the disease has anything to do with acute rheumatic fever. It is possible that the patient may have the latter disease in early life and later have arthritis deformans, but this is only the occurrence of two diseases in the one person. The view that acute rheumatic fever gradually merges into arthritis deformans does not seem to have any support. Those regarded as such were probably instances

of the acute type of arthritis deformans, wrongly diagnosed as rheumatic fever.

The two main views, which have been held regarding the cause of these chronic joint conditions, have been (*a*) that it was primarily a disease of the nervous system, and (*b*) that it was of an infectious nature either from a specific organism or as the result of the infections of various organisms. The main points which have been brought forward in support of the first view are the symmetry of the lesions, the progression from the peripheral joints to those nearer the body, the supposed similarity of the lesions to those which occur in certain diseases of the clearly nervous system, such as locomotor ataxia, the marked muscular atrophy, various disturbances of sensation and reflexes and the occurrence of neuritis. When these are examined carefully we find that as a rule the lesions are not exactly symmetrical although the statement that they are has been repeated over and over again, and while in many instances they begin in the peripheral joints, yet not infrequently the larger joints are attacked first. As to the similarity of the joint lesions to those secondary to chronic diseases of the nervous system it must be kept in mind that the descriptions are of the very late changes in arthritis deformans, after years of progress when the process is one of degeneration and not one at all peculiar to the disease. The changes such as muscular atrophy, etc., are difficult to explain, at any rate in some instances. In these patients we not infrequently find that the whole metabolism seems to be profoundly affected, but there is no question of the unusually rapid progress of muscular atrophy especially in the muscles of the hand. The alterations in the reflexes are common in joint conditions of various kinds and it would be a mistake to attach too much importance to them. The occurrence of neuritis is usually easy of explanation, being generally by direct extension. Thus in the arthritis involving the spinal joints it is very common to have this secondary neuritis in the nerves in close relation to the affected vertebræ. The possible effect of toxines in the nervous system has to be kept in mind.

Turning to the second explanation of an infectious origin there seems very much more evidence in support of this. The onset in many cases is acute with polyarthritis, fever, leukocytosis, etc., which is suggestive. There is glandular enlargement corresponding to the infected joints, in some instances enlargement of the spleen and occasionally visceral complications, such as pleurisy and pericarditis. But perhaps the suggestive point is the association with definite sources of infection. Thus tonsillitis, pyorrhœa, dysentery, infections of the urogenital tract, conditions of the pelvic organs in women, seem in some instances to stand in causal relationship. Infection of the nasal sinuses, influenza infection

in the bronchi, as in bronchiectasis, intestinal conditions such as dysentery, all appear to have been the sources of infection. If such a focus can be found and removed, the improvement in the arthritis may be immediate and marked. In two instances recently reported, changes in the spine exactly comparable to those found in arthritis deformans occurred following an infection with the *Bacillus typhosus* in one patient and a paracolon organism in another. In a considerable number of cases in the literature similar changes have followed infection with the gonococcus. It may be that these should be more correctly termed cases of gonococcus arthritis, but at any rate the fact that the same lesions are found, goes to prove that an infection may set up these changes in the joints. Another point is the influence of an intercurrent infection on an established arthritis deformans. In many instances the joint symptoms are made worse. The exact explanation of what happens is of course difficult to give.

When we turn to the question of bacteriological results there is comparatively little to quote. Many observers have reported organisms, perhaps the most convincing being the findings of Poynton and Paine, who obtained a diplococcus from the joints of a patient, which set up very characteristic arthritis in a rabbit. Cultures from the joints are almost always negative. In this connection it is worthy of note, that even in the forms of arthritis associated with organisms, these may not be found. Thus in gonococcus arthritis, the gonococcus may be found only in scrapings from the membranes and not in the contents of the joint. Although suggestive, as yet the experimental work does not seem sufficiently definite to warrant positive conclusions. Streptococci, obtained from the throat, when injected into rabbits set up more or less chronic forms of arthritis.

With the infectious origin regarded as suggested, two modes of action seem probable. It may be metastatic, the organisms being carried by the blood to the joints, or toxic. Perhaps both of these may operate. Whichever it be, one striking feature is the general condition of the patients. This is usually markedly affected, the nutrition is poor and the whole individual suffers. In a general way it may be said that the most reasonable view seems to be that this variety of chronic joint disease is due to an infection of some kind, but whether with one or many organisms is still doubtful, although the evidence thus far suggests that many organisms may be concerned, always bearing in mind that different organisms may set up precisely the same changes in joints.

Of other etiological factors it is difficult to speak with any certainty. One is frequently asked if the disease runs in families. If it be an infection, it seems difficult to understand how heredity can play any part and yet one may see instances where a number of individuals of the same

family were affected. Figures usually quoted showing the disease to be very much more frequent in females than in males are in the experience of the writer not verified in Baltimore, where the figures for the sexes have been about equal. As regards race, we have found a marked less susceptibility in the colored race, who show only about half the relative number of cases. As to age, the greatest number occurred between 20 and 40, but it may occur at any age and the instances with an onset below 20 years of age are by no means rare.

Changes in the Joints. In considering these, one point must be kept in mind, namely, that many of the descriptions in the literature are concerned only with the late stages. This is seen especially in the classical atlas of Adams, which gives an excellent idea of the final results. However, as concerns our ideas of the essential nature of the disease it is important to study the early changes, and these, as has been said, are rarely found at autopsy unless death occurs from some other disease. The obtaining of materials at operation, which is being done now much more frequently, has added considerably to our knowledge. It may be said that every grade and variety of change may occur. They may be grouped under various headings. (*a*) Effusion. This is often early, may recur and is sometimes persistent. The fluid shows no special characteristics. (*b*) Changes in the synovial membranes. These may be early and show a marked hæmorrhagic character. Inflammatory changes are marked and one part may be more concerned. Apparently the cartilage in close connection with such areas tends to be affected first. The subsequent changes in the synovial membranes may be very marked. This in some way there may be marked hypertrophy and the development of villous arthritis. This is apt to ocur if fluid is present with motion. (*c*) Changes in the cartilage. Thinning, ulceration and destruction often occur. This may be of all grades, only a small area being affected or the whole cartilage destroyed and the bony structures being in apposition. There may also be new bone formation, usually at the junction of periosteum and cartilage, forming the exostoses. (*d*) Bony changes. The bones may show marked atrophy, which may be due partly to disuse. There may be marked bony overgrowth, usually at the margins of the joints of the extremities, and especially common in the spine, where the ligaments may be entirely replaced by bone. (*e*) True ankylosis is rare, although occasionally seen.

Changes in the structures about the joint are common and may be responsible for much of the deformity. Secondary changes, as muscular atrophy, contractures, are often found. They are, however, secondary and not essential features of the process. All these forms of change may be associated in varying degree.

While some of these changes occur and several may be associated in the same patient, yet in others the changes may apparently be very slight so that the joint is left with very little damage, and so far as the patient is concerned, seems normal, yet as a rule some thickening can be found in the joint capsule. This is especially true of the knee.

Corresponding to the pathological changes we can to some extent separate three groups of cases: (1) those in which the atrophic changes predominate; (2) those with predominating hypertrophic changes, and (3) those with periarticular changes most marked. The hypertrophic changes usually predominate in the spine. Some writers hold that these represent three distinct diseases, but so frequently do we find at least two of these forms associated in the one patient that it seems more reasonable to regard them as more or less varying results of a common cause. Thus one may see well marked hypertrophic bony changes in the spine and atrophic changes in the peripheral joints. It does not seem wise in the present state of our knowledge to attach too much importance to these various forms as a means of classification.

In the recognition of the amount of change in the structures of the joint or the damage which has been done, the use of the x-rays has been of the greatest possible assistance. With these it is possible to determine how much injury has occurred and accordingly decide regarding both the prognosis and treatment.

Symptoms. In discussing these we must keep in mind that in this disease as in all others there are many grades of severity. Too often this is lost sight of. Because the changes in the joint are comparatively slight it is considered that the case cannot belong to this group. There may be all grades from those of the very slight changes to practically entire destruction of the joint. An exactly analogous condition may be seen in gonorrhœal arthritis in which there may be only slight inflammatory changes or extensive ulceration and destruction. For clinical descriptions it is convenient to divide the cases into certain groups. It must be understood that this is only for description and does not mean that each is a distinct disease.

I. Heberden's Nodes. These require but slight mention, as they are perfectly familiar to everyone. Occurring in the form of bony outgrowth around the last finger point, they may vary from very slight projections to rather marked deformity. As a rule the joint itself is apparently not much affected, yet in some cases there may be flexion or marked deflexion to one side or the other. This condition as a rule is not serious and is usually complained of more on account of the unsightly appearance than for anything else. Occasionally there is considerable pain, especially if the joints are injured in any way.

As a rule when the patients show this manifestation of the disease the larger joints are likely to escape, yet this is by no means always the case and Heberden's nodes may occur with marked changes elsewhere. The idea of Charcot that women having them were prone to carcinoma does not seem to be borne out.

II. Polyarticular type. This comprises by far the largest number of cases, and although the manifestations are very various yet we can to some extent divide them into groups. It is the most important class because the most frequent, the most likely to be crippling and the most resistant to treatment. It also deserves special mention because on account of its character it is most likely to be wrongly diagnosed. While in the literature the onset of this type is usually stated to be in later life, yet a careful study of a series will show that a large number, probably nearly half, come on before thirty years of age, and in a considerable number before twenty. The mode of onset varies, in about half being acute. The acute mode of onset should be specially noted, as most of the descriptions of the disease deal only with the gradual onset. The fact that arthritis deformans may come with a sudden, sharp onset accompanied by fever and a multiple arthritis has not been generally recognized. If the histories are gone into carefully it will be found that the patients are often unable to give the onset as occurring in any one joint and simply say that many were involved. In the course we find some variations. In one, following the acute onset the condition becomes more subacute and then chronic, assuming the character of a slow, progressive type. In a second the disease is slowly progressive after a gradual onset without any acute attacks. In a third type there may be recurring acute attacks, perhaps at long intervals, each leaving the joints a little more damaged. After several of these attacks the condition may pass into the slow chronic form.

As to the changes in the joints, no general description can be given that fits all of them, but some more or less characteristic points may be discussed. Perhaps the most important single thing to recognize is that when the joint is once attacked it is rarely left entirely free. Some thickening or some slight disability usually remains. There is one exception to this in the already mentioned recurring acute attacks. Sometimes after the first one or two, so far as can be made out, the joint is left perfectly intact, but this is rarely true of a second attack, and hardly ever of the third. Another point concerns the symmetry of the lesions. The earlier writers and those who uphold the cause as being in the nervous system speak of the lesions as being symmetrical. If the patients are carefully studied it will be found that this is by no means always the case and that a certain joint may be involved on one side only or the involve-

ment of one side may be much more marked than on the other. This is true not only of the joints of the extremities but also of involvement of the joints of the spine, in which place it is in fact rare to find symmetrical involvement. Another point is the usually accepted statement that the lesions as a rule begin in the peripheral joints and extend towards the body, the larger joints being involved last. This is, however, by no means true, and in fully one-third of the patients the process begins in one of the larger joints.

Cervical Vertebræ. Quite apart from the forms of spondylitis, to be considered later, the cervical region is involved quite frequently. There is generally complaint of pain, movement is much restricted, sometimes the head is held on one side and on forcible movement the pain may be increased and referred to definite areas. Occasionally a little crepitus may be obtained. This condition may accompany quite marked changes in the other joints; fortunately it is rarely permanent and as a rule the condition clears up entirely.

Temporo-Maxillary Joint. The involvement is comparatively frequent and may be on one or both sides and show all grades from slight pain to complete ankylosis. During the acute attacks there may be some limitation of motion, but as a rule this is not extreme or permanent, although fixation may occur. Involvement of this joint is always suggestive of arthritis deformans, as it is rare for it to be concerned in the other forms of arthritis.

Sternoclavicular Joint. This is occasionally involved with considerable pain and quite marked swelling.

Shoulder Joints. Next to the knee joints these are most frequently involved, in the majority of cases both being concerned. There is very commonly complaint of pain which may be referred to one small area over the front of the joint; movement is usually restricted. This is especially shown in attempts to raise the hand toward the head or to place it behind the back, so that patients very often complain of inability to fix the hair or reach the buttons on the clothing of the back. Very commonly they can raise the hand as high as the shoulder, but no higher. If the joint condition becomes more chronic there is usually more or less constant pain and some limitation of motion, sometimes crepitus and some stiffnes. With this there may be quite marked atrophy of the muscles of the shoulder girdle.

Elbow Joints. These are involved in about one-third of the cases. In the acute stage the elbow is held in a flexed position, there is often a good deal of swelling and sometimes quite marked atrophy of the muscles both above and below the joints. The elbow may be fixed in partial flexion, but this is not very common.

Wrist Joints. The changes here are commonly very characteristic. There is often marked swelling both above and below the joints, so that the outlines are entirely lost. There may be considerable restriction of motion, and crepitus on movement. In some cases the swelling may extend half way up to the metacarpal bones.

The Hands. Here the most common involvement is in the metacarpal phalangeal joints. In the acute stages there may be quite marked redness, swelling and tenderness with thickening left as the acute features subside. This may lessen the mobility, but it does not necessarily interfere very much with function. It is rare to find all of these joints involved, the first one being the most commonly affected.

Thumb Joint. This is not very rare, and is always suggestive of arthritis deformans. The great majority of instances of acute arthritis of this joint are due to this cause.

Fingers. The changes here as a rule are very characteristic. In the acute stage there may be some swelling, especially of the first phalangeal joint with limitation of motion. Subsequently after the acute features subside, the thickening becomes more marked and the characteristic fusiform swelling is produced. This is perhaps most frequent in the two middle fingers, but its distribution is very irregular and any one or all of the fingers may be involved. Sometimes there may be flexion, hyperextension or lateral deviation of the terminal phalanx.

As a result of these changes in the joints of the hands, very characteristic pictures may be produced. Thickening about the finger joints may give the diagnosis at a glance as also the involvement of the metacarpal phalangeal joints. Ulnar deflexion is sometimes seen, usually late on, and with it a curious looseness of the fingers so that they may be moved at the metacarpo-phalangeal articulation with the greatest ease. In other patients there may be great difficulty in "making a fist."

Hip Joints. These are involved fairly frequently in the acute stages but generally tend to clear up and the patient is not left with much permanent damage. If this occurs, ankylosis is often found.

Knee Joint. As a rule this is the joint most often concerned. The great majority of patients have some amount of trouble with the knees; in the majority both are affected. The joint as a rule shows great redness, accompanied with swelling and tenderness, sometimes with effusion. If the process continues, thickening of the capsule and of the structures about the joint appears. At the same time there may be considerable atrophy of the muscles above and below the joint which suggests that the bony parts have enlarged, but comparison with the other knee or examination of the x-ray plates will show that this is not the case. There is of course considerable tendency to flexion and fixation.

Ankle Joints. These are involved about as often as the wrists and show pretty much the same type of change. Involvement of the feet and toes is very much less common than in the hands. One form is very trying, namely, the group of patients with severe pain in the heel. This may be so marked that it prevents them walking or sometimes almost from standing. The great toe may be occasionally involved along with other joints, and sometimes it may give difficulty in the diagnosis.

Along with the joint changes there is nearly always a certain amount of muscular atrophy. Sometimes this comes on with remarkable rapidity which may suggest trophic disturbances. This sometimes gives the clue to the diagnosis in a doubtful condition. As a rule the reflexes are much increased in the affected extremity.

There are certain features of this polyarticular type to which reference may be made, especially in regard to the distinction from acute rheumatic fever. In arthritis deformans there is rarely any successive involvement and clearing of the joints. Once attacked, a joint rarely becomes free until the attack is over, and sometimes not then. The remarkable way in which a rheumatic joint clears in a few hours is practically never seen. The swelling may be quite marked and may extend some distance above and below the joint. The redness is rarely as marked as in rheumatic fever and the joint is not so hot to the touch. Tenderness is rarely extreme. When the joint is clearing up the improvement is slow and almost invariably some thickening is left about the joint.

Certain of the general features deserve mention.

1. Fever. This is rarely high, and in the majority rarely goes above 102° F. In very few instances does it go above 103°. This association of acute polyarthritis with rather slight fever is important in diagnosis, especially when slight fever (99.5°-100°) is persistent.

2. Circulation. In a certain small percentage of cases there may be endocarditis or pericarditis, and these may occur with pleurisy as in a patient recently seen. However, the most important point is the pulse rate, and in a majority of the patients, probably two-thirds, this is persistently above 90. This may persist after the temperature is normal.

3. Spleen. The more carefully this is examined the more often will enlargement be found, especially in the very acute cases. Exactly the same thing may be said of glandular enlargement. Almost invariably with any acute arthritis the associated glands are enlarged, and with polyarthritis the enlargement is general.

4. Subcutaneous Fibroid Nodules. These are found occasionally in adults. When occurring in children they are apparently always in association with rheumatic conditions.

5. The Blood. This as a rule shows nothing distinctive, the hæmoglobin and red cells are usually somewhat diminished. The leucocytes rarely show much increase, which is rather surprising when one considers the acute nature of some of these cases.

In this particular form perhaps the most important thing is the matter of diagnosis, because too often the condition is regarded as being acute rheumatic fever and the patient is treated on this ground and as a rule is harmed. The later stages require no special mention, diagnosis is then as a rule only too evident from the deformity, but it is in the early stages when so much may be done to help patients that the recognition is important. Perhaps one of the first things is to realize there is an acute polyarthritis which is not rheumatic in origin. In the recognition of this group there are several factors of importance. The sudden disappearance of arthritis in a given joint is hardly ever seen in arthritis deformans, nor are the local joint features as acute as in rheumatic fever. Then certain joints are rarely involved in rheumatic fever, especially the joints of the neck, the tempero-maxillary joint and the joints of the thumb. If any of these are concerned, a diagnosis of rheumatic fever should be viewed with suspicion. Involvement of the fingers and knuckles is extremely characteristic and there is a certain amount of thickening. Perhaps the patient is not able to "make a fist" as well as usual and the lesions are apt to be irregular, one finger often being involved more than the others. But perhaps the most important rule is that if an acute arthritis leaves some changes in the joint, its rheumatic nature is practically excluded. If with this the pulse rate remains rather above the normal after the acute features have subsided, with rather marked atrophy and very much exaggerated reflexes, the suspicion is increased. The condition may drag on with the temperature about 99° or 100°, a certain amount of joint trouble persisting. This is always suspicious and suggests arthritis deformans. Patients with arthritis deformans as a rule do not show benefit from the salicylates that we find in rheumatic fever. Unfortunately many patients are given salicylates almost indefinitely and are much harmed.

Acute Gout. This may sometimes cause error, especially as we have probably in the past failed to recognize many instances of acute polyarticular gout.

Gonorrhœal Arthritis. This, contrary to the usually accepted notion, is also nearly always a polyarthritis although the changes may predominate in one joint and may give considerable difficulty in diagnosis. It is the form of more chronic course which gives the greatest difficulty. Gonorrhœal arthritis is much more common than is usually supposed, and the figures from some clinics, where it is the subject of special investiga-

tion, suggest that it is the most frequent form, being more common than rheumatic fever. Undoubtedly many cases are never recognized. Many of the changes which are common in the arthritis deformans cases may be found in gonorrhœal arthritis. If, however, it is kept in mind, and the gonococcus carefully searched for, the danger of error is lessened.

Still's Disease. This condition appears to the writer to be practically arthritis deformans in childhood, and not any specific condition. The special features known are: (1) Polyarthritis, which involves the polyarticular structures more than the joint itself; (2) marked enlargement of the spleen; (3) marked enlargement of the lymph glands. One may find all grades of this condition from childhood up to twenty years of age with a gradual transition, so that it is impossible to draw any definite line and say when Still's disease ends and arthritis deformans begins.

III. Monarticular Form. This is a small group which perhaps deserves special mention, and sometimes is separated for convenience. It usually occurs after the age of forty and involves one of the large joints, either the hip or the shoulder. While one joint stands out as being specially affected, careful examination as a rule shows changes in some of the other joints so that the term monarticular is often not justified. However, the features in the large joint involved are usually very characteristic if they be severe. In the milder forms the patient may never seek advice, regarding the condition as one of "rheumatism." In the severe forms in the shoulder joint pain is a marked feature and is often felt down the arm and up towards the neck. With this there may be marked immobility and pain on motion, so that the condition is regarded as a neuritis. A careful examination will show that an arthritis is present, to which the neuritis is apparently secondary. As a rule any attempt at abduction or rotation causes severe pain. With this there may be marked atrophy of the muscles in the shoulder girdle and in the upper arm. In the hip joint there is apparently a greater tendency toward bone formation, due possibly to the fact that as a rule there is more irritation and strain than in the shoulder. Here the pain may be severe, and as in the shoulder there may be a secondary neuritis. Muscular atrophy may also be marked. Patients with the hip trouble may have marked pain on walking and special difficulty in going upstairs.

In all of this group the predominant symptoms are pain on motion, limitation of motion, crepitus, muscular wasting, and usually marked increase in the reflexes of the affected extremity. The recognition of this group may give difficulty, especially from tuberculous arthritis; in this the use of tuberculin is very helpful.

IV. Spinal Involvement. These comprise a group of great interest, and their frequency is much greater than we have previously supposed.

There may be only an arthritis of the vertebral joints, but there seems to be a marked tendency towards hypertrophic changes with the formation of new bone. Some writers therefore describe the changes as osseo-arthritic. This is most frequent in the ligaments, and also occurs in the intervertebral discs and sometimes in the form of outgrowth about the smaller joints. As in the polyarticular form, every grade of involvement is found, and there may be involvement of the smaller joints of the vertebræ without any marked bone formation. It is important to realize that arthritis of these joints is not necessarily accompanied by bony deposit although this is much more frequent than in the peripheral joints. The condition varies all the way from involvement of a portion to that of the whole spine. In the majority it will be found on close examination that there are changes in the peripheral joints which suggests that the condition is not a separate disease.

This form occurs in the majority of cases in males, and by far the largest number between the ages of 20 and 40, although instances below 20 are not uncommon. The onset may be either acute or gradual, and in some patients there seems no doubt that previous attacks have occurred which left comparatively little damage, exactly as we see the peripheral joints. Each succeeding attack, however, adds a little to the damage done. In other instances the condition is progressive and extends until the whole spine is ankylosed. In the group with the general involvement the features are very characteristic, the whole spine being rigid and the diagnosis being made at a glance. In some patients the spine has been fixed with a good deal of bending forward, in others the patients are very straight.

It is, however, the group with local involvement that is of special interest. This usually occurs in the lower dorsal and lumbar region, and the most frequent complaint is pain sometimes accompanied by stiffness. This may be referred to the lumbar region or to the legs, especially over the course of the sciatic. There can be no question that many conditions previously diagnosed as sciatica were really arthritis of the spinal vertebræ, the nerve roots being involved either by pressure or by extension of the inflammation. The symptoms are easily explained when the arthritis, with inflammatory swelling, and the tendency to the formation of new bone are kept in mind. On examination it will be found that the movements of the spine are distinctly limited. This may be in a small area only and more on bending to one side than the other, which is not surprising with the irregular anatomical distribution of the process. In some instances the lumbar curve may be obliterated. The muscles on either side of the spine are often very rigid and in some instances show atrophy. The reflexes in the legs are increased as a rule and this may

be much more marked in one leg if the disease affects one side of the spine more than the other. The same statement applies to the muscular atrophy. The recognition of this group as a rule is easy. To distinguish it from tuberculous disease may give some difficulty, in which case tuberculin may be used. The x-ray plates are exceedingly satisfactory if there be any bone deposit, as is readily shown.

Prognosis. While the general impression is that the outlook for even fair recovery is grave, yet the writer feels that in many instances the outlook is not so serious as is commonly supposed. The most important matter is the early recognition so that proper treatment may be begun early. A clear distinction should be made between the treatment of what may be termed the disease itself and that of the resulting deformities. Extensive joint destruction with ankylosis having begun, of course the outlook is grave, but the important point is to try and prevent this condition as far as possible. Two forms stand out as always of serious import; one is that in which the condition is never acute, but more or less progressive with either a steady advance in many joints or involvement of one joint after another. The other form is that beginning in women about the time of the menopause. This tends to assume a very chronic and progressive course. Some of the instances in old people with a tendency towards marked hypertrophic changes in the bone are also serious as regards the chance for any complete recovery.

Treatment. The early recognition of the condition and the avoidance of improper treatment are most important. Too often the diagnosis of "rheumatism" is made and measures towards that are instituted which in many cases are injurious. The great essential is to know the enemy we are fighting.

Certain forms of treatment should be noted as usually being harmful; one is restriction of the diet. Too often this disease is regarded as being due to "uric acid" and the meats are cut off with great harm to the patient. The giving of salicylates over long periods of time is nearly always injurious, although for limited periods they do no harm. The advisability of sending the patient to some spring or other very frequently comes up, and too often the patients themselves try this method of treatment without advice. As a rule, it is harmful, certainly in many of the severe cases; the milder ones which are improved would probably get well anyway. The benefit is usually due more to the complete change.

In the treatment, the first endeavor should always be to exclude any possible source of infection. The condition of the nose, the pharynx and especially the tonsils, should be examined and proper treatment adopted if local trouble is found. The care of the mouth should receive attention and if pyorrhœa exists every effort should be made to lessen it. The

state of the digestion should be watched and any trouble in the bowel corrected. In women pelvic disease should receive attention. The uro-genital tract, especially in males, should be carefully examined and any abdominal condition treated. Chronic prostatitis and inflammation of the seminal vesicles should be looked for. Any inter-current infection in these patients should be regarded seriously, and every care should be taken to prevent further lighting up in the joints.

The handling of the patient may be taken up under two headings: (1) general treatment, and (2) local.

In the general treatment every effort should be made to keep the patient's health in as good a condition as possible. All the fresh air and sunshine possible, with good hygiene, should be insisted on. The diet should be nutritious with only one rule, that the fullest possible amount should be given. Meats should not be cut off. In patients whose digestion of sugars is poor it may be well to limit these. For a time it is well to endeavor to get in extra nourishment by the giving of milk and eggs between meals. With this large amounts of water should be taken. The bowels should be kept regular. Careful attention should be given to the condition of the blood and iron and arsenic given internally; some prefer iodide of iron, which may alternate with the others. For the severe general pain one is often much puzzled what to give. Occasionally the administration of asperin, which is usually better than salicylic acid, gives considerable relief. Small doses of antipyrine or antipyrine and codeia may be of help. Some of the English writers report good results from tincture of iodine. It must be confessed, however, that medicine by mouth have little effect in many of the patients who have severe pain.

Local Measures. During the acute attacks hydrotherapy may be used in the form of compresses which are applied and left on for some hours. Baking is often of use, but should not be kept up for more than thirty minutes. Mild counter-irritation may be useful and some patients obtain relief by dipping the hands in hot or cold water. The Paquelin cautery lightly applied may give relief. As soon as the acute features subside it is usually well to begin both passive and active movements in the joints. This should be very gentle at first and gradually increased. It is well to encourage the patient to do as much of this as possible, fatigue always being avoided and repeated short periods being better than one long one. With this, light general massage may well be used and kept up for some time. It is well to get the patients rubbing and moving their own joints as much as possible. In the most chronic forms, the treatment by hyperæmia is often helpful. If there be a tendency towards contracture this should be steadily fought and every effort made to prevent it. In the absence of acute features pain must not be considered

a counter-irritation to use. It is well to explain this to the patient as they are naturally much inclined to give up every effort which causes pain.

In the form which involves the joints of the spine the same general rules apply, but in the local treatment rest should be substituted for use. This is generally best brought about by plaster casts for which afterwards some form of light support should be substituted. The cast may have to be worn continuously or only during the day. In some of these patients, however, the most troublesome pain occurs in the latter part of the night. As a rule, the process in the spine tends to run a certain course, so that after a time the use of a cast may be discontinued. If hypertrophic changes are present in the peripheral joints, it is often well to avoid too much use for a time. To much rest with the danger of ankylosis should be avoided. If the patients who come with contractures and marked deformities it may not be possible to help very much. Still the effort should be made, and it is wonderful what perseverance can do with a stiff joint. In deciding the chances of treatment in this group, the use of the x-rays is very helpful. Thus if a joint becomes too much disorganized and the cartilage destroyed the outlook is not so good as in those in which the change is periarticular. In some of these patients surgical measures are of great assistance in remedying the deformity.

Patience and perseverance are essential both on the part of the physician and the patient. As a rule the patients who do well are those who are willing to fight constantly; the ones who lie back and expect everything to be done for them have much less chance of improvement. As a rule the process runs a more or less definite course and the effort should be made to keep the patient in the best possible condition during this time and limit the damage in the joints to the minimum. After more or less marked recovery the patient should be warned to treat every infection seriously, as an attack of influenza or tonsillitis may light up the old process.

SURGERY OF THE THYROID GLAND.*

By ALEXANDER HUGH FERGUSON, M.D., Chicago.

MR. PRESIDENT and Members of the Missouri Valley Medical Association,—I appreciate the distinguished honor of having been selected by President Campbell to deliver the Oration on Surgery, an honor of which any surgeon may feel proud. In accepting the invitation, I was somewhat at a loss to know what subject to select which would interest the members, and accordingly appealed to the President of the Society, who suggested that I address you on the Surgery of the Thyroid Gland,

* Oration on Surgery, delivered before the Medical Society of Missouri Valley, Omaha, March 21, 1907.

a topic which at present is fraught with intense interest to both physicians and surgeons, an interest in which I am sure the members of this society share. I am firmly convinced of the truth of this statement, because of the work you have done in the past, which is well and widely known, and personally I have enjoyed a long and intimate acquaintance and friendship with many of you. I was particularly pleased again to have the opportunity to visit this city, because this visit recalls vividly the many delightful hours I spent in Omaha, some years ago, when I had the pleasure of delivering the address on the occasion of the opening of the Creighton Medical College. If anything that I may say on this occasion will be of service to you, I shall feel that I have in a small measure at least contributed to the success of this meeting.

General Considerations.

There is much that I might say with regard to the surgery of the thyroid gland, but as I do not wish to weary you or to consume too much of your time, I shall limit my remarks to the indications for surgical intervention in diseases of the thyroid gland, to the diagnosis, and to a recital of the methods of procedure which I have found to be most valuable.

Generally stated, surgical intervention is not called for in the treatment of diseases of the thyroid gland until other measures have failed to relieve the patient of the symptoms incident to enlargement of the thyroid and to remove or at least reduce the existing deformity. Any marked enlargement of the neck, caused by hypertrophy of the thyroid, especially when occurring in a young woman, is in itself sufficient reason for seeking such relief as surgery can give. Of course, the patient invariably prefers medical treatment and surgical intervention is not sought for until it has been proven beyond the shadow of a doubt that other therapeutic measures cannot give the desired relief.

Indications.

Obstruction to respiration is one of the earliest and most constant indications for operation. As a rule, this obstruction is very insidious in its development, and usually progressive in severity until finally it is constant. The first subjective evidence of interference with respiration is a mild form of dyspnœa incident to increased bodily activity or exertion, and at such times there are called into action the extrinsic muscles of respiration, such as the sterno-cleido-mastoid, sterno-thyroid and the sterno-hyoid. The occurrence of this dyspnœa should serve as a warning of impending danger, and the sudden narrowing of the trachea may occasion asphyxia, with a fatal termination.

The attacks of dyspnœa at first are mild, but by degrees they increase in severity until death is imminent or ensues. The pathologic changes that take place in the trachea during the course of the development of chronic dyspnœa, and the occurrence of tracheal stridor demand surgical relief. When cyanosis is marked or when asphyxia occurs, in one suffering with goitre, prompt operative measures must be resorted to. These measures include slitting the deep cervical fascia and the muscles in front of the gland; division of the isthmus; resection of one of the lateral lobes of the gland, or the performance of a laryngotomy tracheotomy. It is incumbent on the surgeon to decide which of these measures will be productive of the greatest good to the patient, and it is at such times that his skill and ingenuity are taxed to the utmost. If the enlargement of the gland is cystic in character, immediate relief may be given the patient by evacuating the contents of the cyst—serum, or blood, or both.

It must be borne in mind that much valuable time may be lost in the effort to perform a low tracheotomy when the gland is much enlarged, or in attempting to sever or resect the isthmus of the gland, a procedure which is uncertain in its results. It is to be preferred to incise the trachea either above or behind the isthmus, as a matter of expediency, or perform laryngotomy and then to remove the gland itself twenty-four hours later. When the enlargement of the gland is substernal, or when it is enlarging in a downward direction, either with or without an accompanying dyspnœa, operation is indicated. Tracheotomy may not afford the necessary relief in such cases.

Not infrequently a small central thyroid hypertrophy produces local disturbances that are out of proportion in severity to the size of the enlargement. In such cases the nodule should be removed.

When the patient cannot flex the neck or stoop without a sudden rush of blood to the head, surgical intervention is advisable.

Enlargement of the thyroid often is accompanied by asthma and in such cases insomnia invariably is a most distressing symptom. Although thyroidectomy may be looked on by some as rather a heroic measure, under these circumstances it is the only rational and effective treatment. The asthmatic attacks and the great discomfort incident to them may take their origin in pressure on the laryngeal nerves by the enlarged gland. In such cases complete relief is afforded by removal of the gland. I have not hesitated, when it was thought that the gland was compressing the nerves, to administer chloroform and do a thyroidectomy. Preliminary to the use of the chloroform, the patient is given morphine or cocaine, preferably the latter.

A source of great discomfort to the patient is the sensation of weight and dragging in the neck due to the enlargement of the gland. This may be accompanied by more or less pain. If the patient is not too old, and is otherwise in good health, an operation may be done with safety. If the tumor is pendulous, and if it is not attached firmly posteriorly, the operation is a comparatively easy one and the result exceedingly satisfactory. If, on the other hand, the enlargement is most extensive on the under surface of the gland, and the gland is buried in the neck, as it were, with firm attachments to the underlying structures, thyroidectomy is a dangerous and difficult procedure.

Goitres which are not limited by a capsule, or in which calcification has occurred, or that are the seat of an acute inflammation, are removed with more difficulty than are the simple goitres. This is also true of those tumors that have been exposed to the Roentgen ray or that have been treated by means of parenchymatous injections. When the tumor compresses the trachea and œsophagus, dyspnœa and dysphagia occasion much suffering to the patient. In 1895 I performed a thyroidectomy because of a severe dysphagia. There was not much interference with the freedom of breathing, nor did the gland produce much external bulging. A casual look at the neck of the patient would fail to detect the presence of the goitre. At the operation, however, the gland was found to be very much enlarged, and it almost encircled the trachea and œsophagus. The patient was only sixteen years of age, so that the condition was all the more singular.

I have not seen a case of retro-pharyngeo-œsophageal goitre, such as was described by Kaufman, in 1859, in which dysphagia was the most distressing symptom.

In 1896, I described (*North American Practitioner,* No. VIII.) a rare case. The patient had a very large goitre, and when I saw her she sought relief because of symptoms produced by a plate of teeth which she had swallowed, and which had been lodged in the œsophagus for about ten days. It was impossible to do an œsophagotomy for the purpose of removing the teeth without first removing the thyroid. This was done, and the patient made a complete recovery.

On attempting to decide as to the advisability of removing an enlarged thyroid, the condition of the patient, his age and the nature of the tumor must be given careful consideration. When surgical intervention for enlargement of the thyroid was first practiced, the mortality in the case of patients over forty years of age was so high (about 50 per cent.) as to deter surgeons from attempting to do a thyroidectomy on persons of that age.

As the result of a study of the clinical manifestations of 300 cases of disease of the thyroid in which thyroidectomy was done, I found (1) that in 77 per cent. of these cases dyspnœa was the principal indication for the operation; (2) deformity in 24 per cent.; (3) dysphagia in 8 per cent.; (4) tracheal stenosis, increase in size of the gland, and discomfort in from 3 to 4 per cent.; (5) in over 2 but less than 3 per cent. malignancy, suspected malignancy, the low location, bulk, and weight of the gland were the indications for operation. In 36 per cent. of the cases a multiplicity of signs and symptoms was the indication for operation. These symptoms do not include cases of exophthalmic goitre.

When a goitre of long standing, occurring during the so-called cancerous age, begins to enlarge rapidly and becomes harder and more firmly attached, it must be removed because, as a rule, such tumors have a tendency to become malignant. When a child is born with a goitre and dyspnœa is severe, operation is the only treatment. Several surgeons have operated successfully in cases of congenital goitre in from ninety hours to three days after the birth of the child.

The formation of abscesses in one or both lobes of the thyroid always is an indication for operation. The abscess is incised and evacuated, and drainage is instituted. When the tenia echinococcus finds its way into the thyroid, cysts are formed. These must be opened and drained. It is always dangerous and often impossible to remove these cysts without injuring the surrounding structures.

Diagnosis.

The diagnosis of goitre is usually easy. Owing to the intimate connection between the larynx and the thyroid gland, the most common and most constant sign of tumor of the thyroid is the free up and down movement of the gland, together with the larynx and trachea, during deglutition. However, a too implicit reliance on this sign occasionally will lead the clinician into error, because cysts situated in the subhyoid region also move up and down with the larynx during the act of swallowing. This is also true of benign and malignant tumors of the larynx, trachea and œsophagus, and a lipoma attached to the thyroid cartilage has in a number of instances caused the same sign to appear. Among other swellings which follow the larynx in its up and down movements and which simulate bronchocele, are the following: Tuberculous glands, chronic tuberculous abscesses, sebaceous and dermoid cysts, chronic abscesses of all kinds, lymphosarcoma, and hernia of the trachea.

Not all tumors of the thyroid gland manifest this characteristic mobility during deglutition. These are (1) very bulky and pendulous goitres; (2) fixed malignant or inflamed goitres; (3) goitres of unusually large

size which conceal the larynx and trachea so completely as to render palpation of the larynx impossible; (4) aberrant goitrous masses of thyroid tissue.

The shape of the goitre is often so characteristic, especially in the early stages of parenchymatous enlargement, as to permit of a diagnosis on sight. It retains the shape of the normal gland. As the thyroid increases in size, its shape changes according to the resistance offered, until in many instances every semblance of the normal gland is lost. Large masses of varying shape, some oval, some rounded, and others so asymmetrical as to baffle description, may be seen.

The size of the goitre may vary from a slight increase in size of the normal gland to an enlargement that sometimes weighs several pounds. These huge goitres generally are cystic. While the shape, size and position of the enlargement may aid materially in making a diagnosis, the sensation that is imparted to the fingers on palpation is of far greater value. To make a positive differentiation of the variety of the goitre, the best means of diagnosis is an exploratory incision which exposes the dilated veins coursing over the tumor. A sharp instrument should never be thrust into an enlarged thyroid. Quite a few years ago when parenchymatous injections were made with the view of removing the tumor, I passed an aspirating needle into the centre of the goitre several times for diagnostic purposes. On two occasions the patient became severely asphyxiated, because of hæmorrhage into the sac of the cystic goitre. Hæmostasis by ligature and drainage had to be resorted to in order to prevent a fatal outcome.

The position of the large vessels in the neck cannot be ascertained without cutting through the skin and the platysma. It is sometimes impossible to diagnosticate a post-sternal goitre from other tumors which may be found in this region, such as sarcoma, tuberculous lymphatic glands, aneurysm; abscess, etc.

The vertigo, buzzing in the head, deafness, and a sense of fullness in the neck, are symptoms that are due to circulatory disturbances caused by the pressure of the goitre on those veins that convey the blood downward from the head and neck (external, internal and anterior tubulars).

Œdema of the skin over the tumor or œdema of the face, arms or glottis, is an indication either of malignancy or inflammation of the gland. When the tumor is pressing on or irritating one or both recurrent laryngeal nerves, the patient usually complains of an inability to sing or speak. The voice is hoarse and squeaky. Sometimes there is spasm of the glottis. Paralysis of one vocal cord, occurring in a person over forty years of age, is almost a certain indication of malignancy. I have done thyroidectomy three times because of paralysis of a vocal cord, but

the tumors were not malignant. The patients were aged 18, 23 and 36 years respectively. A number of similar instances have been reported by others.

Contraction of the pupil, with or without changes in the vascular system, and unilateral sweating of the head, is indicative of involvement of the cervical sympathetic. The only cases in which I have met these signs were instances of cancer of the thyroid. When a person suffering from a goitre complains of pain in the neck or pain in the arm, it means that the cervical and brachial plexuses are being encroached on. If the case is a malignant one, and the patient lives long enough, paralysis of the nerves supplying these regions occurs. I have seen one such case. When a benign goitre presses on the pneumogastric nerve, irregularity and rapidity of the heart action results, but not the tachycardia that is met with in exopthhalmic goitre.

In considering the clinical history of these cases, we must not forget that pressure of a goitre on the trachea may cause a fatal asphyxia. Berry, in 1901, tabulated 34 cases of fatal asphyxia. It is worthy of note that in 17 of these cases no operation was done. The youngest patient was 12 years old, and the oldest 30. The duration of the tumor varied from one month to twelve years. In most of the cases dyspnœa had been present for a short time only, a few days to two months. The operations that failed to give relief were tracheotomy and laryngotomy. These cases serve to emphasize the danger in which the patient is when dyspnœa manifests itself.

Results of Thyroidectomy.

Kocher's record is remarkable because of two things: (1) he has operated in more cases of goitre (over 3,000) than any other surgeon, and (2) the mortality in his last series of one thousand cases is the lowest on record (especially in exophthalmic goitre), the total mortality being 0.7 per cent. Malignant disease was the cause of death in 3 out of 7 fatal cases. Kocher lost only 1 patient in 52 cases of exophthalmic goitre in which operation was done. Post-operative hæmorhage was the cause of death in this one case.

In simple goitre Kocher's mortality was 0.3 per cent. The causes of death were hæmorrhage, pneumonia, and bilateral paralysis of the recurrent laryngeal nerve with a well-defined myocarditis.

In studying the results of Kocher's work on the thyroid gland, one is impressed with (*a*) the importance of the condition of the cardio-vascular system in determining whether or not an operation is to be undertaken, and (*b*) the advice not to operate in exophthalmic goitre as a last resort.

The secret of statistical success undoubtedly lies in the careful selection of cases for operation, at least so far as Graves' disease is concerned, and not in the technic employed or in the choice of the anæsthetic. Every surgeon selects his cases for operation in accordance with his knowledge and experience in this line of work. In *Progressive Medicine,* March, 1907, Charles H. Frazier, of Philadelphia, tabulates Kocher's results in exophthalmic goitre as follows: Number of operations performed, 176; deaths, 9 (about 5 per cent.); patients traced after the operation, 158. Of this number, 81 per cent. were cured; 7 per cent. greatly improved: 10 per cent. improved, and 2 patients died later.

In the same article Frazier points out that Friedheim, Curtis, Schultze, and Shephard report 101 cases, with a mortality of 15 per cent., and 70 per cent. of cures. All of the fatalities in Shephard's cases (3 out of 17) occurred in desperate cases. In the same class of cases operated on in Riedel's clinic (21), the death rate was 28.5 per cent., only 1 per cent. of deaths occurring in the less severe cases.

Dr. C. H. Mayo, in a recent (January 26, 1907) issue of the *Journal of the American Medical Association,* tabulates his results as follows: Total number of patients operated on in 17 years, 300; deaths in this series, 11 (3.66 per cent.). There were 110 cases of exophthalmic goitre with 9 fatalities (8.66 per cent.). Two of the patients were moribund at the time of the operation.

During the past nineteen years I have operated on 58 patients, 44 of whom had simple or cystic goitres. No deaths occurred in this series, and only two patients had to be operated on again later on. There were 12 cases of exophhalmic goitre, with 3 deaths (25 per cent.). Eight of the patients were cured. One patient was gradually improved but there was a partial return of the goitre and of symptoms three years after the operation. The causes of death were prolapse of the trachea in one case, thyroidism in two cases. Four of the patients were in a very serious condition at the time of operation; none of these cases was able to walk. In two of these cases the tumor was malignant. Only two of these four patients died.

I refused to operate in one case of exophthalmic goitre. It was one of the worst cases I ever saw. The patient came from California, remained in Chicago for over a week, and then went home to Canada. During all this time she had been in bed, and after her return home she remained in bed for several months. One year after I saw her she returned to Chicago so much improved that she was able to resume her occupation as a housekeeper.

I also refused to operate in five cases of malignant disease of the thyroid on account of the extent of the disease. One of these patients was operated on by another surgeon, and she died on the operating table.

Operation.

It may be stated with much certainty that the operations best suited for the surgical treatment of diseases of the thyroid gland are partial and complete thyroidectomy, the former for benign and the latter for malignant growths. In order to prevent hypothyroidism and the train of symptoms that follow in its wake, some portion of the gland should be left *in situ*, so that normal metabolism may not be interfered with to a serious extent.

The incision that renders the gland most accessible is the transverse curved incision advocated by Kocher. When the central lobe or isthmus is the only portion of the gland affected, a central vertical incision is the easiest and the best. When only one of the lateral lobes is involved it matters not what line of incision is selected, but it is well to bear in mind that the scar of a transverse incision may be hidden by wearing a collar. The incision extends through the skin and platysma in cases of simple adenoma and cystic goitre. A flap is raised up which exposes freely the inner edges of the sterno-cleido-mastoid muscles, and also the sterno-hyoid, sterno-thyroid, and omo-hyoid muscles which overlie the goitre. It usually is not necessary to bisect these muscles except in cases of exophthalmic and malignant goitre, when all the room that can be obtained is necessary in order to do the operation safely and well and to facilitate drainage.

In order to expose the enlarged veins that lie over and between the muscles, it is necessary to cut carefully and with delibration. Only by experience can one learn to cut the fibrous structures in the vicinity of these vessels and expose the matter without injury and without bathing the field of operation in blood. After having exposed the veins, each vein is graspd with two forceps, making sure that the entire calibre of the vessel is liberated and engaged in the bite of the forceps. The vessel is then cut between the two forceps. There is no hæmorrhage. At this stage of the operation all of the vessels are ligated, except the very small ones that course immediately beneath the skin.

I have removed enormous goi res without cutting any of the muscles. In fact, almost any variety of goitre may be removed from its bed simply by liberating it from its attachments between the muscles, dividing the cervical fascia which envelops them. In the case of goitres of large size that are firmly embedded in the tissues, much valuable time is often lost in attempting to extirpate them without cutting the muscles. While I prefer very much not to cut any muscles, I do not consider them of sufficient importance to justify delay during the operation. If the gland cannot be turned out easily and freely, no hesitation need be felt to cut

every muscle and proceed with the operation. I prefer to cut these muscles directly over the most prominent part of the growth, so as to allow equal gaping on each side.

Finger Exploration Method.

The surface of the gland within its capsule is now visible. An accurate knowledge of the size and nature of the tumor growth may be acquired by passing the finger in every direction deeply behind the sternum and palpate the structures there. This is an important step. While the goitre may be exposed with its capsule intact, no attempt should be made to effect its removal.

Opening the Capsule. The capsule is opened in all cases, except those that are malignant, when the gland is removed in its entirety, capsule and all. In these cases it is imperative to adminiser thyroid extract, beginning immediately after the operation, and continuing the administration during the remainder of the lifetime of the patient. This is absolutely essential, because in all probability the parathyroids, which are usually situated on the posterior surface of the capsule, have been removed with the tumor.

The true capsule of the thyroid is a thin layer of fibrous tissue so transparent as to show plainly the thyroid vessels coursing beneath it. A small opening is made in the capsule, just large enough to admit the tips of one or two fingers, and the capsule is then torn or stretched sufficiently to permit of evulsion of the goitre. The capsule is separated thoroughly, with due care, from the entire surface of the gland, using the fingers for this purpose so as not to injure the thyroid vessels. There are two reasons why the capsule should be opened and the gland nucleated: First, to obviate the possibility of doing injury to the recurrent laryngeal nerves, and, second, so as not to destroy the parathyroid bodies.

In the *British Medical Journal,* November 10, 1906, MacCallum, speaking of the function of the parathyroids, says: "1. If removed from animals, the symptoms of tetany ensue. 2. If this condition is due to intoxication, it may be the function of these glands to neutralize certain poisons. 3. When an animal is parathyroidectomized, then bled and the blood replaced with salt solution, the symptoms of tetany pass away for a time. 4. The ingestion of the extract of parathyroid prevents tetany in the cases in which the glands are removed." It has been shown that when the parathyroids are removed from the human subject, that tetany is very prone to ensue.

The capsule of the thyroid being opened fully, and separated from the gland itself, the thyroid vessels are now dealt with. I prefer to pass my finger beneath the superior thyroid vessels and apply a double clamp

on them, close to the gland, within the capsule. The inferior thyroid and other vessels are dealt with in a similar manner. The clamps are not as likely to split as are the ligatures. They are left in place until the gland is removed.

The next step consists in cutting away the lateral lobes of the gland in such a manner as to leave a narrow strip of gland tissue on either side of the trachea. If any vessels are cut during this procedure, and sometimes there are many of them, large-sized mosquito forceps are quickly applied to control the hæmorrhage temporarily. The more broadly the goitre is attached posteriorly, the more necessary it is to leave a portion of it undisturbed. It is less dangerous to the patient to control hæmorrhage from the face of the stump of the gland than it is to control the hæmorrhage that follows the extirpation of the gland.

The isthmus may or may not be severed. When only one lobe is being removed, the isthmus is clamped and ligated. When both lobes must be sacrificed, it sometimes is easier to dissect the isthmus away from the trachea, leaving it in contact with the tissue to be removed from the opposite side.

If the hæmorrhage is very profuse, it is controlled, first, by the finger, then by forceps, and finally by ligature or suture. Often the hæmorrhage is from a large number of small vessels which is a source of danger to the patient. This hæmorrhage is best controlled by a figure-of-eight catgut suture. On several occasions I have made use of a double packing of gauze permeated with subgallate of bismuth, one packing being inserted between the gland and the capsule, and the other being placed external to the capsule and pressing firmly on the great vessels. These two packings in addition to pressure on top with the hand will speedily check hæmorrhage from the smaller vessels. On withdrawing the internal packing slowly, the bleeding points become visible, and can be clamped and tied or sutured. Every bleeding point must be watched for, and the vessel secured and tied before any attempt is made to close the wound.

After the gland has been removed and all of the vessels have been ligated, the angiotrypsic clamps are released. When the gland is studded with cysts containing a serous fluid or colloid material, I prefer not to clamp the vessels as described above, but to ligate them in continuity, then rapidly and boldly digging out the cysts. It is surprising with what little hæmorrhage this procedure is accompanied. In some cases the cysts are so large as to render it extremely difficult to ligate the vessels without first having evacuated the cyst.

After the large vessels have been tied, as much of the gland tissue may be removed as is desired with perfect safety. The small bleeding

points are grasped with forceps, and sutured or ligated as is required. The actual cautery or styptics cannot be relied on to secure hæmostasis.

In some cases it may be easier to remove the gland from the isthmus outward. This is permissible. I have been in the habit of applying iodine or Harrington's solution to the raw surface of the gland.

Closing the Wound. If the tumor was of the simple or cystic variety of goitre, the wound can be closed completely, in some cases even without drainage, all dead spaces being eradicated by means of fine catgut sutures. The muscles, if severed, are sutured and reunited, and the external wound is closed in the usual way. But even in simple cases, I feel safer when I establish capillary drainage.

If the case has been one of exophthalmic goitre, or if the tumor was a malignant one, no attempt should be made to close the deep wound or to suture the vessels that have been severed. Three large cigarette drains should be inserted, one in the centre above the sternum and one on each side in the angles of the wound. A mammoth dressing is applied in such a manner as to prevent movements of the head. If the hæmorrhage has been a severe one, hypodermoclysis must be resorted to at once.

PROCEEDINGS OF THE MEDICAL SECTION OF THE ASSOCIATED SHADES; ANNUAL MEETING, A.D. 1907, AT HADES-ON-THE-STYX; HIPPOCRATES IN THE CHAIR.

By ARTHUR C. JACOBSON, M.D., Brooklyn, N.Y., U.S.A.

AFTER the roll-call and the reading of the minutes of the last meeting by William Jenner, the Society proceeded to new business and the election of new members. Prominent among recent accession in membership were Louis Pasteur and Rudolph Virchow. The president then opened the scientific programme by calling for the reading of the three formal addresses of the evening, after which the report of a special committee was received. This report was read by John Hunter and set forth the findings of the committee as to the state of medicine upon the earth. Each member of the committee, which consisted of Boerhaave, Bichat, Harvey and Benjamin Rush, had contributed the results of his individual observations along rather special lines, but the report was read *in toto* as representing the sense of the committee as a whole.

The titles of the three papers, which all came under the general head of "Repetition in Medical History," were as follows:—

The Modern Theory and Practice of Antisepsis as Forecasted by the Present Speaker; read by "Lord" Francis Bacon (honorary member).

The Early Beginnings of Specific Therapy; read by Thomas Sydenham.

The Technique of Intubation of the Larynx as Practised by the President of this Society; read by Hippocrates (Paracelsus taking chair temporarily.)

"Lord" Bacon took as his text the following extract from his own writings:—

"It is an inquiry of excellent use to inquire of the means of preventing or staying putrefaction; for therein consisteth the means of conservation of bodies; for bodies have two kinds of dissolutions, the one by consumption and desiccation, the other by putrefaction. But as for the putrefactions of the bodies of men and living creatures, as in agues, worms, consumption of the lungs, impostumes and ulcers, both inwards and outwards, they are a great part of physic and surgery."

Sydenham, in presenting his subject, called attention to the very ancient practice among the African aborigines of setting up an active immunization against snake-bites and to the use in early European medicine of animal parts, growing out of the fact that such animals were able to resist the action of certain poisons. So also Kirchner, in the middle ages, had advocated the parasitic origin of infectious diseases, on the ground that the use of toad-amulets was most efficacious against the plague, and that both toads and plague emanated from the same source. He himself (Sydenham) had argued for specific therapy as the ideal to be sought. He pointed out how Lange (1655-1701), and Rivinus as well, had clearly foreseen the advent of bacteriologic science. Mercury he had never become enamored of, during his lifetime, for reasons which he understood were now shared by the members of the committee which was to report later, and in the light of their recent observations he could see no occasion for modifying his original views. In conclusion, inoculation, vaccination, and the pioneer work of Eisenmann, in Germany, were briefly touched upon.[1]

Hippocrates, in his characteristic style, gave a brief description of his method of intubation[2] and alluded to the revival of the operation by Desault and Bichat.[3]

The committee's report had been deferred to the last by general consent because of its length and special interest. Hippocrates, upon concluding his remarks, resumed the chair and called Hunter to the

[1] *Vide* Editorial J. A. M. A., June 30, 1906.
[2] Kühn's text, vol. II, p. 300.
[3] The Nose and Throat in Medical History. Wright.

rostrum. That worthy thereupon immediately launched into the subject-matter of the report, after the president had asked for silence on the part of Haller, Laënnec, Ricord and Semmelweis, who had become engaged in a wordy warfare with Paracelsus regarding the latter's boastful claim of the honor of having introduced mercury to the notice of the profession.

THE COMMITTEE'S REPORT.*

Most revered president, father of our art, and fellow members of the Medical Section of the Associated Shades:—

Your committee has diligently sought, during the year just elapsed, to arrive at a just estimate of the present condition of the science and art of medicine upon the earth. Although endowed with more than mortal powers, we have found it impossible, in the brief time allotted, to do more than formulate some general conclusions with respect to the conditions obtaining, and must perforce reserve further pronouncement until such time as our observations shall have been fully completed. We would crave your indulgence for another year, if it shall be your pleasure to continue the committee for that period.

It is with joy that we have to report relative progress in certain respects, and it is with sadness that we have to report also relative stagnation. The profession is not solely responsible for the latter. The shortcomings of political administrators charged with official duties relation to the public health must be reckoned with. The profession is to a large extent fully aware of the vast possibilities of preventive medicine and is carrying on a propaganda that will yet see a fruition. It is difficult to cope with the ignorance and stupidity of the aforesaid officials and of legislators, and with their opposition to the establishment of posts to be filled by competent men and to which the average man would not be eligible by reason of class privilege or political machinations. No efforts which have been put forth have thus far led to any large governmental appropriations for the study of preventable diseases and ways and means of prevention. Certain private benefactions have permitted the establishment of research institutes, but thus far no remarkable contributions, comparable to certain achievements of the past, have emanated from them. Successful therapeutics—the ultimate aim—has not been notably enriched and disease *at the bedside* continues to be almost as baffling as it was in our own days. The resources of this, the most important side of medicine, have not been greatly added to. In this respect, "not much more is being accomplished than was accomplished a thousand years ago." One bright star in the night of thera-

*The readers who are familiar with Hunter's characteristically crabbed style, will notice the substitution of modern construction for that worthy's quaint English.

peutic impotence is diphtheria antitoxin, but "the profession is no better off than it ever was with respect to measles, pertussis, influenza, scarlatina, typhoid and a host of other more or less common afflictions."[4] Science is more interested in side-chain theories than it is in practical issues.[5] Above all things is an ingenious hypothesis dearly loved; and it need not necessarily be a working hypothesis.

" . . . one hears the public exclaim: 'Surgery has taken immense strides, but medicine is at a standstill; it is to-day exactly where it was in the time of Hippocrates.' " Thus saith Prof. Paul Dubois, in his recent work, "The Psychic Treatment of Nervous Diseases," covertly and discreetly putting the thought which is in his own heart in the mouth of the public. He is frankly honest about the surgeon when he says: " . . . one often hears a surgeon discuss his operations in a way which shows that it is not always easy to develop simultaneously his manual dexterity, his good sense, and his moral conscience." Yet we suspect that he would like to declare that such surgeons constitute the great majority of the operating fraternity.

As to therapeutic failure, we see one great evidence of it in the pursuit of what might be called intra-professional avocations. Failing to cure, the physicians are seen to turn to all sorts of vicarious expedients in order to justify their existence, kill time, and salve their own medical consciences. They interest themselves in medical history, general or special literature, botany, pure science, the politics and social side of the medical society, automobiling and golf. These are not so much recreations as expedients. They are gone into with suspicious avidity, and an immense quota of time and energy is bestowed upon them. They are recreations only in the sense that they represent the relaxation that follows certain physical burdens, rather than that to which the real conquest of disease would entitle the conquerors. And what mere recreation would be comparable to the satisfaction of mind and soul which would flow from, and be constantly incidental to, genuine mastery of the ills of the flesh?

To some extent the specialties, including surgery, are vicarious expedients of similar nature to the above.

Everything but the field of pure medicine, in the sense of its highest function—the cure of disease—is overworked.

But there are signs of an awakening. President Eliot, of Harvard, Sir James Crichton-Browne, and Dr. A. T. Schofield, of London, have all three in recent addresses dwelt upon the startling statistics regarding the waste of life by deaths from preventable diseases. Such deaths

[4] J. A. M. A., Sept. 15, 1906; *vide* article by Hornibrook. Med. Record, Sept. 29, 1906; *vide* article by Disen.

[5] J. A. M. A., Feb. 16, 1907; *vide* article by Ohlmacher.

constitute nearly half of the total number. The first named, at the opening of the new buildings for the medical school at Harvard, expressed the belief that the physician of the future would have to concern himself chiefly, or at least very largely, with the prevention of disease, rather than with treatment.

Strange to say, the profession is not altogether dissatisfied with its present state. We know that this has been so in all the ages, and it is this spirit of smug contentment with what it is pleased to call its wonderful achievements, and which is clearly discernible in the major portion of the current writings, which constitutes one of the greatest barriers against progress. The professional unit, great or small, questions this attitude of the medical mind at his peril. But there shall yet come a great reformer who will nail his thesis to the door of the medical hierarchy's *sanctum sanctorum.*

It is a remarkable fact that the profession is still using drugs. Drugs and the physician are almost as indissolubly associated as in the days of our own earthly sojourn. Of course there will always be therapeutic confusion and therapeutic impotence so long as they are used at all, in any form, save for certain purely local effects. This, of course, does not altogether eliminate internal administration, for certain local effects may concern internal organs. Thus adrenalin may serve a useful purpose in hæmatemesis, or urinary antiseptics in chronic cystitis. So also the antidotal effects of drugs must be invoked in cases of poisoning. The *constitutional* therapy of the future is foreshadowed by the opsonic method of Wright.

Who is there that supposes that the profession would use patent and proprietary "remedies" if the ethical remedies really cured? The slovenly habit is acquired because disease is no more influenced by the one than by the other. Some might say that as much harm is done with the ethical as with the unethical. The whole miserable matter is a colossal confession of therapeutic impotence. It means that, having failed with their own preparations, the physicians have reached out for possible succor to the lay manufacturers, whose claims, self-evidently absurd, have actually ensnared them. Is it conceivable that this means anything but the self-betrayal before mentioned?

Those of us who have ourselves been identified with the birth of new systems of therapeutics will be amused to hear about the work of Prof. Paul Ehrlich, of Frankfort, Germany. He is investigating the chemical action of drugs in fighting disease and is endeavoring especially to find substances and compounds that bear particular relationships to, and have attractions for, special organs.[6]

[6]Lancet, Oct. 6, 1906.

Thus methylene blue, when injected, stains the peripheral nerve-endings blue, and therefore stands in a particular chemical relationship to the nerve-endings. The word neurotropic expresses this affinity. When a substance stains several tissues it is called polytropic. These substances exert their action only on those parts of the organism which they reach and where they are stored. Ehrlich claims that a knowledge of the laws of distribution is necessary to rational therapeutics. "Drugs to which, in consequence of their chemical constitution, a therapeutic effect is attributed, are useless if they do not reach the diseased organ."

Somehow this brings to mind the old doctrine of signatures, with which some of us were once familiar enough. Liverwort was good for liver troubles because of the shape of the leaf suggesting that organ. It was not enough that the rheumatic should wear flannel; it must be red, because rheumatism was a blood disease. It is not necessary to remind you of further instances. You can readily see the analogy between Ehrlich's idea and the queer old doctrine of signatures which enthralled some of us once upon a time.

Our good brethren are still struggling with syphilis, but the disease is less virulent to-day because of the gradual racial immunization which has been going on these hundreds of years. While "civilization is syphilization," it is a syphilization which is tending farther and farther away from the type once so grewsomely familiar to many of us.

Mercury, despite the fact that it does not cure the disease, is still the main reliance of the profession, because of its remarkable effect upon the *symptoms*. It is very carefully used nowadays in comparison with former times, and far less harm is occasioned by it, yet Dupré points out that it is still doing great damage in the graver syphlitic sequelæ, such as paresis, causing stomatitis, enterocolitis, tremor, dysarthria, agitation, mental confusion, hallucinations and cachexia.[7] There is nothing paradoxical in this to the syphilologist.

It is a curious fact that while the great majority of the cases of general paresis and locomotor ataxia are syphilitic in origin, that while many so-called authorities agree that the use of mercury apparently does not prevent or even favors the occurrence of these diseases in persons predisposed, that while continued use of the drug aggravates these diseases after their occurrence,[8] and that while no authority whatever can name the data, sign or symtom by which a cure of syphilis may be determined, yet there is an unlimited faith in the drug which constitutes a kind of therapeutic fetishism.

One evil of modifying the disease with mercury, and retarding the natural immunization which occurs in otherwise healthy subjects, may

[7]International Medical Congress, Lisbon.
[8]N. Y. Med. Jour., Apr. 7, 1906; *ibid.* Nov. 17, 1906.

be inferred when we reflect that the more severe the case the less liable are the grave sequelæ to supervene. It is mild syphilis which is the more to be feared. Thus Fournier and Bramwell cite 83 cases of undoubted syphilitic paresis of which 80 were characterized by mild infections. 243 cases in which the course was severe were carefully followed up and *in not a single instance* did general paralysis occur.[9]

I have said that no authority whatever can name the data, sign or symptom by which a cure of syphilis may be determined. Keyes and Morrow admit that there are no positive and unquestionable evidences or signs by which we can determine a cure. Fournier, in his recent work on syphilis, coquettes with this question and fails to illuminate it.

We may judge somewhat as to the economic conditions at present obtaining in the profession from the recent circular of the Association of French Physicians warning candidates for the bachelor's degree in science and arts, and their parents, against taking up the study of medicine without a full knowledge of the miseries of the profession. What applies to France may fairly be said to apply to other countries. The circular remarks that "the various industries, the different branches of commerce, and some of the other liberal professions, offer . . . a far better, larger and surer field for the activity and initiative of modern youth, without condemning their votaries, as does medicine, to complete inactivity, and consequently to failure, and often to poverty in the presence of the slightest illness."

You will be interested to hear something about your old enemies, cancer and tuberculosis. Sad to say, the former's ravages are increasing and the boasted science of our earthly brethren availeth not. The profession has wisely given up drugs in the management of tuberculosis and is appreciably reducing the death-rate from the scourge by a rational employment of natural means of cure. Afflicted people go back to nature and tent-life now when they can do so, but while enjoying health men are still afraid of fresh air and, indeed, in many instances, owing to the present social and industrial conditions, can get it hardly at all. Long ago Charles Kingsley wrote that you can't breed a man in a stye, but nearly all classes of society are still living and working in styes, figuratively speaking. Thus there is little done in the way of real prevention. When the horse escapes, the stable door is carefully locked.

Figures recently published by the Department of Health of the City of New York ("Circular of Information regarding the Measures Adopted by the Board of Health for the Sanitary Supervision of Tuberculosis in the City of New York") show an apparent fall in the death rate from

[9] N. Y. State J. of Med., Sept., 1906.

tuberculosis from 4.20 per 1,000 in 1881 to 2.40 per 1,000 in 1903.* This is a rather naive presentation. The Board, of course, takes no account of a large number of deaths from tuberculosis, nowadays increasingly reported as pneumonia in order to evade the hardship inflicted upon the poor by the industrial insurance companies, the money paid at a death being considerably governed in amount by the cause of death. Our large hearted brethren undoubtedly connive at this thing and we don't feel that we can characterize it with any great vigor, either. However, it makes the figures lie.

It is largely the miserable social conditions resulting from the industrial crimes of a competitive system which curse the people's bodies as they curse their souls. These constitute the chief factors in tuberculous infection. Knopf confuses effect and cause when he says that "the solution of the tuberculosis problem means the solution of the social problem." This would be truer were we to reverse the proposition and say that "the solution of the social problem means the solution of the tuberculosis problem."

Charles Kingsley, going about his little parish with an auger, and boring holes in the walls of the cottages for the ingress of fresh air—after the epidemic had gained a firm foothold in the village—is a noble figure indeed to contemplate.

But, although heroic from one point of view, it also typifies the very worst feature of the people's fight against disease—the late institution of hygienic measures as a curative, instead of the early and habitual practice of the same as a preventive policy.

We are one with Kingsley and with Robert Hunter in their insistent declarations as to alcoholism being more often the result of poverty than the cause.

Prevalent as disease is among the sons of men, the wonder is that there is not more. "In multitudes of tenements the only general ablution that ever takes place is practised once on a newly born child and again on the corpse of any deceased member of the family. . . . A prominent English ecclesiastic is reported to have stated publicly on a recent occasion that there was only one bath tub in a densely populated district of London to which he ministered, and that one tub was his own."[10] One is reminded of the model tenements which were once upon a time constructed in New York city, and in which bath tubs were installed on the theory that the reason why the masses didn't bathe was because they

*A still more recent circular (1907) gives 4.27 and 2.16 as the death-rates from phthisis for these same years, and in another place on the same page (p. 3) gives the latter as 2.39, all of which is evidence of the untrustworthiness of these official figures.

[10]N. Y. Med. J., Jan. 26, 1907.

lacked facilities. Not long afterward it was found that every tub was being used as a coal-bin.

But we are digressing slightly.

The idiotic schism between the regular and homœopathic schools still obtains. I say idiotic, since the basis of their differences—drugs—is an illogical and unsound basis. The whole foundation of drug therapeutics is rotten and insecure. Why, then, this absurd persistence in unfriendliness?

In certain respects we must liken the profession to that ill-fated vessel, the *General Slocum,* a brave-appearing craft, but lacking decent life-preservers when the catastrophe occurred; equally ill-equipped and powerless to aid the desperately situated does medicine often find itself.

"The human race is still in its infancy," says Sir Oliver Lodge. Wise infant!

The spirit of the trust which dominates commercial activities on the earth has also found its way into medicine. The hospitals are very close corporations in a certain sense. Stephen Smith[11] tells us that "the exclusion of the medical profession from a participation in the benefits of a public hospital is not only a wrong to that profession, but works a serious injury to the sick. Under present hospital regulations, the medical staff exercises all the powers of the most exacting monopoly, though the method of appointment secures only ordinary practitioners."

"When the patient enters a hospital," says Smith, "he loses his physician, which is of more importance than the losing of the patient by the physician."

A burning zeal for truth is professed, but where there should be fire only smoke is seen ascending. Rivalries, strife for prestige, pride of place, absurd conservatism, even a spirit of professional caste and class, constitute the chief elements of density in this smoke. An obscure man of the Jenner type would to-day find it as hard to secede adherents or the adoption of new and sound principles as did he.

Now and then we encounter a Walter Reed, honestly absorbed in the problems of medicine, and solving them, uninterested in the bickerings of his brethren—a very stallion of accomplishment in a barn yard of cackling poultry.

The work of Reed, as showing the relation between the *stegomyia fasciata* and the spread of yellow fever, is worth 10,000 studies in pharmaco-dynamics.

There is a marked tendency on the part of those who are supposed to mould professional thought to invest the simplest phenomena in involved technicalities. A good instance of this tendency is Tourdes's

[11]Med. Record, Jan. 5, 1907.

definition of sudden death. He defines it as "the sudden or very speedy cessation of life in consequence of internal or pathological causes, apart from all mechanical or poisonous agency, occurring unexpectedly in a person who appeared to be in good health or whose diseased condition did not manifestly presage a fatal issue." This is literally a technical "brain-storm" reduced to print. Imagine a definition of the act of defecation produced by such a mind under great technical stress.

Young men of much natural ability are constantly entering the profession. They are enthusiastic, ambitious to engage in the fight against disease, anxious to become the leading actors of an idealized fraternity. But the lapse of years brings to most of these earnest and able souls better realization of practical impotence as regards genuine cures, save in the instances in which there is a natural tendency toward recovery—and here when a cure is claimed nature is slandered. Again, there comes a final comprehension of the falsities, hypocrisies, intellectual dishonesties and pseudo-science of the official leaders of the profession. Given sufficient effrontery, plausibility, personal magnetism, some mastery of men and a knowledge of the prevailing canons and dogmas of medical faith, and leading actors some of the more clever of the young men become.

It is remarkable how fully taken up is the time of these physicians. Theoretically, and to judge from their great activity, one would suppose that disease was having a very hard time of it, yet they are veritable captains of therapeutic indolence.

We who were identified with the founding and encouragement of the old humeral pathology, the Brunonian system, and all the other barnacles that have from time to time fastened upon the medical ship and impeded its progress, and who so reluctantly tore ourselves away from these absurdities were, after all, not very different from our professional descendants. The three dominant traits of our medical brethren are still a more or less blind adherence to precedent and dogma, a coquettish attitude toward the acceptance of new truths which threaten the supremacy of really moribund and obsolete doctrines, and an ingenuous inability to realize their weaknesses, much less reform them. They call all this conservatism, eminent respectability, etc.

They are conservative enough, heaven knows, except in the matter of drugs, especially proprietaries. For the average patient it is usually a case of dropping a dollar in the slot and getting a proprietary prescription. Says Maarten Maartens, "the medical is the least conservative of the professions, for in their utter incertitude and tom-foolery of ineffective nostrums the doctors naturally snatch at any new chance of an accidental success. It is that which so enrages them against patent

medicines, the thought that, possibly, here might be the opportunity of doing something, only the other quack will not tell how it is done."

They laugh at the devout Christian Scientist upon whose person disease has wrought ravages conspicuous and life-endangering, yet in whose mind dwells no lack of faith nor doubt of health intact. Not less blind, nor less insane, is the spirit that animates the medical profession, if we may judge from its literature and from the testimony afforded by the prevalence of disease—the spirit of smug satisfaction with things as they are.

Begging Paracelsus' pardon, not yet have the physicians gotten beyond his legacy: mercury, antimony, sulphur, nitre and laudanum.

Our earthly confrères are more interested in Koplik's spots than in the causative relation of measles to tuberculosis and in the utilization of that fact in practical prophylaxis; more in the Cæsarean section of to-day than in rupture of the uterus during the next parturition.

Some of the earnest and conscientious souls, with a touching faith in the dear old materia medica, are announcing that results are not being obtained because of therapeutic timidity. Drugs must be pushed more strenuously. Thus a recent writer in one of the best known American journals tells us under date of August 25, 1906, that strychnia does remarkable things in pulmonary tuberculosis if properly administered. Proper administration, if you please, means one grain (*sic*) daily, given in divided doses until there is a disposition to hold the head back, and stiffness of the jaw or of the anterior femoral muscles! I regret that Hahnemann is not present this evening. I am sure this would interest him greatly.

Now there is probably no more incurable disease at present afflicting mankind than that yclept Hodgkin's. Osler, in his Practise of Medicine, tells us ingenuously that he has never cured a case, but has succeeded in setting up an arsenical neuritis. It is only the medical mind that cannot see the fatuity of this kind of therapeutics. Yet the arsenic routine will continue to be upheld. Osler's neuritis will not be the last, and the fluctuations which occur spontaneously in this disease will continue to be attributed to the arsenic.

Some mortal has said, rather dogmatically, that reforms in medicine always originate outside of the profession. There is a large measure of truth in this, if you extend the meaning of reform to include anything and everything that advances the science and art. Some day, if our brethren of the earth are not careful, some layman will come forward with the long-sought cure for cancer or tuberculosis, as Morton did with ether and as Garcia did with the laryngoscope. We have not forgotten how Türck and Czermak quarreled over the invention of the laryngoscope

several years after Garcia's lecture before the Royal Society, which attracted no attention at the time. The danger of something of the kind happening again is quite real. The recent therapeutic symposia of the American Medical Association and the Association of American Physicians were novelties in the way of programmes for these two professional bodies. In the case of the latter it was the first extended and formal discussion of therapeutics in the twenty years of its existence.

Largely owing to therapeutic failure, there has been a deal of energy expended in the field of surgery. Tangible and immediately objective results are attainable therein. Pure medicine is suffering as a result of this neglect, and the profession seems to be partially blind to the fact that the future of medicine presents vastly greater possibilities than does surgery, which, while it has not completed its evolution, is, in the hands of certain masters, rapidly nearing it.

While surgery has not quite reached its limits, the surgeon himself has learned his own limitations. At the battlefield of Mukden 50 cases of abdominal bullet wounds were operated upon by laparotomy by medical officers with good surgical training, and 50 cases were left alone, rest and aseptic treatment of the external wound being the only measures adopted. Of the 50 soldiers operated upon, 40 died; of the non-operated upon 40 survived. Chauvel, medical inspector of the French army, reports 668 patients suffering from appendicitis as having been received into the military hospitals of France in 1902. Of these, 188 were laparotomized and 480 treated medically. Twenty-three of the former died and three of the latter.

Yet a certain prolific, versatile and accomplished writer, lacking only a sense of humor, undertakes to tell in a prominent eastern journal under date of July 28, 1906, how one shall decide that a patient is too far gone to be operated upon. The passage is certainly suggestive and its author clearly knows, himself, when not to operate. He puts forth in all seriousness the following conditions as prohibitory of operation; we must be this bad before the aggressive type of surgeon restrains his hand and puts the knife back in its rack:

"The widely opened eyes, sunken in that earthy colored face, present a strange fixity; the globes remaining immovable, the eyelids likewise, the extreme dilatation of the pupil which no longer reacts to light, represents the death of sight. The nose, which is pinched, is cold, the nostrils vibrate feebly, although occasionally they move with great rapidity. The open mouth, whose withered lips are in contact with the dental arches, is half opened, and the lower jaw is agitated by a pecular chewing movement. The breath is cold and of a fetid odor. When this *ensemble* is encountered the surgeon should do away with all thought of operating."

Medicine in its historic divisions has passed through the mythological period—from the infancy of the human race to about 400 B.C. (Hippocratic period)—through the Empirical period—from 400 B.C. to the close of the eighteenth century—and is now passing through the so-called Rational period (why Rational we know not). Let us look forward to the time when the medical historian shall write of the Renaissance, a period to be characterized by the supremacy of an awakened spirit of true progress, the suppression of obsolete principles and the abolition of false standards; by stock-taking and house-cleaning, during which the cobwebs and grime of the ages shall be relentlessly attacked and cleared away; by an effectual dealing with undesirable "live-stock" in the shape of both ethical and unethical quacks; by the very full development of the idea of organic professional unity; by the dissolution of the schools; by the passing of drug therapeutics, and the highest possible evolution of preventive medicine.

As to the physician of to-day, a great part of his function is summed up by a cotemporary thusly: "If he cannot cure, he can at least soothe the pillow of the dying and smooth the pathway to the grave."[12]

115 Johnson street, Brooklyn.

THE HYOSCINE COMBINATION ANÆSTHETIC.—PRELIMINARY REPORT.

By ERNEST A. HALL, M.D., C.M., Vancouver, B.C.

DURING the last few operations I have tried Lanphear's formula as an anæsthetic, or rather as an adjunct, as in no case did we manage without the assistance of chloroform. Not more than two tablets were given in any case, and while the results were not all that was hoped for, I believe that in this combination we have a valuable addition to our resources. The formula is:—

Hyoscine hydrobromide, gr. 1-100;
Morph. hydrobromide, gr. ¼;
Cactin, gr. 1-67;
In each hypodermic tablet.

One injection was given two hours before, and a second injection half an hour before the operation. Some of the patients fell asleep, others became but drowsy. In all cases they responded when sharply spoken to, and occasionally were able to carry on a connected conversation; they were strikingly susceptible to suggestion and very obedient. They appear when roused to be conscious of their surroundings, and cognizant

[12]Hornibrook, J. A. M. A., Sept. 15, 1906.

of tactile sense, but have no recollection of what occurred after the effect of the medicine became manifest, except in one case in which a patient remembered the pain of the first incision. In all cases the first incision caused the patient to complain, but only in the one case was the pain impressed upon the memory. It is a matter for psychologists to decide in such cases whether the complaint was automatic, and to be classed as reflex, with the muscular contraction, or was it the expression of actual pain suffered but not remembered. However, this condition caused us to administer sufficient chloroform to overcome even these manifestations. The application of hot sponges also caused active reflex, and tension of the viscera caused occasional complaint, especially was this the case in an acute appendicitis, in which the chloroform had to be continued in small quantities until the appendix was removed. The superficial abdominal reflex from the application of hot water and the behaviour under hot sponging indicates that the temperature sense is but lightly affected. The patients take the small amount of chloroform without the slightest inconvenience. No dread of the anæsthetic nor of the operating room is experienced, and quiet sleep from two to four hours is secured after the operation without any interference with the urinary secretion nor any apparent deleterious effect upon metabolism. The patients occasionally vomit, after returning to bed. The operative shock is decidedly less, and their post-operative condition infinitely more comfortable than with full general anæsthesia from ether or chloroform. One disadvantage for abdominal work is the non-relaxation of the recti muscles, but with gentle retraction this is overcome; also in acute inflammation of the peritoneum it is necessary to reinforce with chloroform during the handling of the inflamed parts. It might be that an increase of the dose, giving a third tablet might overcome these obstacles.

No. 1. Adult, two injections, dilatation of cervix and curretting required fifteen minutes. Slight pain was complained of at the beginning of the dilatation, also when hot water was applied. Anæsthesia reinforced by twenty-eight drops of chloroform.

No. 2. Adult, supravaginal hysterectomy; two injections; slight pain was complained of upon section of the skin and separation of the recti, relieved by one and one-half drachms of chloroform. Operation lasted fifty minutes. Convalescence without depression, restlessness or pain; was walking around the hospital on fifteenth day.

No. 3. Adult, male; one injection; dilatation of sphincter ani and removal of internal piles. No apparent effect upon pain of dilatation. Full anæsthesia was required. The after condition was much more comfortable than cases of this kind usually are. In fact little or no pain followed.

No. 4. Adult; cysted goitre and internal A. ander; two injections. Slight pain was complained of during skin incision of both neck and abdomen, necessitating a little chloroform, but the enucleation and the adjustment of the round ligaments were without pain. Patient vomited twice after returning to bed, but suffered no usual post-operative inconvenience. Sitting up on ninth day.

No. 5. Adult female; acute appendicitis; two injections. Chloroform was necessary for incision and during the handling of the peritoneum, the patient occasionally complaining, but without any recollection of suffering after the first incision. Vomited twice after returning to bed; suffered very little after pain; rapid and easy convalescence.

No. 6. Adult male; chronic appendicitis; two injections. A whiff of chloroform was given for incision. No after pain nor vomiting. Patient awoke a few hours after the operation, feeling "as well as ever." Sitting up sixth day.

I consider this method worthy of further trial, and am convinced that there has been made a definite addition to the surgeon's armamentarium, especially with reference to the old and feeble and with those whose arterial system is not in the best condition.

Advantages. The patient receives a hypodermic injection into the arm and goes to sleep in her bed; has no fear of taking the anæsthetic, or dread of long corridors, ambulances or operating room; less shock, nervous and surgical; less risk of post-operative pneumonia, as the minimum general anæsthesia is given; little or no post-operative pain; less vomiting, and a more comfortable and rapid convalescence.

THE MODERN METHODS OF TREATING THE INSANE.

By JOHN G. FITZGERALD, Pathologist to the Toronto Asylum for Insane.

MR. CHAIRMAN and gentlemen of the Staff of the Western Hospital,—I am very glad indeed to have the opportunity to-day of calling your attention to certain phases of the situation in that branch of medical science known as psychiatry, or the science and treatment of diseases of the mind.

That psychiatry should, and does, occupy a position of very considerable importance, as a unit in the system of modern medicine, goes without saying, that the situation for the general practitioner and, even for the special student of the subject, has often been considered hopeless, is also not to be wondered at. This spirit of pessimism is the natural result of observation in the case of the same men; of inquiry and considerable thought on the matter, in the case of others. You say a large number of cases never recover; it is impossible to give even approximate

prognosis in many of those conditions that have been labeled functional psychoses (or mental disturbances), and all that treatment amounts to is the application of certain therapeutic agents for the alleviation of distressing symptoms, combined with judicious care of all those who are unfortunate enough to necessitate their being sent to the asylum. I am sorry to say, gentlemen, that your allegation is, in the main, true. That we have been able to successfully manage the running of large, public boarding houses, sheltering those who, either for their own safety or that of the public at large, may not be allowed their liberty, I believe to be true; that we have done this fairly well I also believe to be true; but that we have done the most or the best we could for our insane population, I believe to be absolutely untrue.

The reason of this is not far to seek. Economic considerations, with a very slight dash of humanitarianism, have largely shaped our conduct in this particular field of human endeavor. The per capita cost has ever appealed more strongly to the inhabitants of all of John Bull's islands than a desire to be leaders in the search for basic, foundation principles, at the expenditure of more hard-earned dollars. I make this statement ever keeping in mind the fact that England's representative in the person of Tuke, of the York Retreat, in conjunction with Pinel, of Salpétriere, did more to first render humane the treatment of the unfortunate sufferers from mental disease, than any living man up to his time; and it is to the lasting credit of the Britisher that he at once saw the force of the arguments of this great humanitarian and speedily adopted measures to correct a great wrong.

But just here we may stop patting ourselves on the back and consider very briefly our backslidings, or at least our failure to be abreast of the times.

With the adoption of humane asylum methods we became self-satisfied and were quite willing to bask in the warm glow of our good works. Not so other investigators in the same fertile field. The Germans here, as in other branches, were seeking after deeper truths; they wanted the basic facts; and the only way to get them was to work, not spasmodically, but all the time, late and early. The more hopeless the task appeared the greater was the effort put forth until not finally, but to-day we see them leading the world in their knowledge of mental alienation, and in the more exact application of rational therapy.

To trace the course of this laborious, painstaking, most conscientious and eminently humane pursuit, is not my purpose; but I cannot refrain from noting just one example, and pause a moment to speak of one of the pieces of work accomplished by Weigert, the world-famous German neuropathologist. For seven long years this pioneer investigator toiled

to perfect a staining method for glia tissue that would satisfy every detail of his own exacting requirements. Through months of deep depression he toiled on, finally giving to the world the methods, which he himself declared were far from satisfactory, but were the best he had to offer; and this method is the one we use to-day. Many, perhaps, would not be touched by the plain recital of an event of this sort, but to a person engaged in the work, it appeals most strongly and will ever shine forth as a beacon light pointing the way, stimulating to further endeavor, though it was only the accomplishment of one small step in seven years.

To go on to the more strictly essential details of the development, it is sufficient to say that by the adoption of laboratory methods in the departments of psychology, neuropathology and chemistry, physiological and pathological, the German psychiatric clinic has come to rank first in the world to-day, in its method of tre ing those suffering from the psychoses. As one would naturally expect, when cases were more closely studied, when finer analyses were made, when a truer conception of the exact state of affairs was arrived at, better methods of treatment were adopted.

With the advent of the hospital idea, hospital routine was adopted, hydro-therapy in the form of prolonged baths, patients being left in the bath at 98-99 F. for days, weeks or months, when the state (the excitement of the various conditions) of the patient indicated that this would be of value. Or the use of wet packs *hot* or *cold* (packing kept up for days or even weeks, when necessary), rest, massage, etc. Re-education and employment for the chronic insane were also features in the advance, not only in Germany, but in other lands.

Just one word as to the methods of examination. The reception of a patient did not mean a perfunctory glance, and his being assigned to some suitable ward. On the contrary, it meant most thorough consideration from every standpoint, careful observation, and then suitable treatment. Does this appeal to you as being rational, gentlemen? Did it ever occur to you that the adoption of such hospital methods, not merely for those suffering from bodily ailments, but for all cases when they are first sent to an institution for the insane, would be of the utmost value? Would not every one of you feel more confident that the case you certified would receive better care, the nature of the disease process be more fully understood, if this were possible? It is possible, but only with modern hospitals equipped in a modern fashion, with a staff sufficiently large and sufficiently capable, to do the work. Ontario can have all this if she wishes to, the eventual saving to the Province would be immense, and the practical application of first principles of sound business methods, not to mention the advantages from other points of view, would soon

bring us to the front rank of those who have grappled with a great problem, and are attempting to solve it. Just before closing this sketch I beg leave to say one or two words on one other subject that is very close to my heart, and that is, the emancipation of the medical service in the Ontario asylums from political control. Gentlemen, it is the curse of the situation. So long as superintendents or medical assistants, or any of the other employees, are appointed merely because a political debt must be satisfied, just so long will the people of Ontario not get what they pay for, just so long will the work be retarded, and just so long will practically nothing be accomplished. There is the spectacle of non-medical, minor public officials dictating the policy of institutions, interfering in the internal management of the same institutions, guiding the medical officers, in fact, gentlemen, doing everything but making morning rounds. This spectacle is, I say, one that we have no good and sufficient reason to be proud of. The correction of such an evil is easy the appointment of a lunacy commission, non-political, headed by an expert and broad minded alienist; in other words, civil service reform, and the cure is effected. The medical profession must take hold, otherwise this malignant tumor-growth will cause such cachexia that the patient will certainly succumb, and that means, in plain language, that the asylum situation in Ontario will not be relieved.

RAYNAUD'S DISEASE DUE TO MOVABLE KIDNEY.

Dr. G. A. Gibson, of Edinburgh, reports in *Western Canada Medical Journal*, of April, two cases of typical Raynaud's disease, due to the reflex disturbances caused by a movable kidney in each case. These cases were operated upon by Dr. Cotterill and the kidneys fixed, with the result that both made a complete recovery from the operations and their Reynaud's disease. Dr. Gibson concludes thus: "These two cases seem to me excellent illustrations of a variety of Raynaud's disease having its origin in reflex disturbances, and falling into the same category as the angina pectoris vasomotoria of Landois and Nothnagel. It may possibly be objected that mobility of the kidney is, in itself, scarcely sufficient to produce such widespread disturbances, but clinical experience has taught me that movable kidney is a fertile source of palpitation and of tachycardia, and it seems to me that there can be no doubt of its power to bring about all the vasomotor changes which are summed up under the title of Raynaud's disease.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Windsor Mills, Quebec.

An interesting case is being tried by Justice Guerin at the present time, viz., the Town of Westmount *vs.* Montreal Water and Power Co., the important question being whether or not there are typhoid bacilli in the water used by the town and supplied by the Montreal Water Company. Dr. Starkey, professor of Hygiene at McGill University, gave important evidence in regard to the distribution of the water and the cases of typhoid fever, and also in regard to the condition of the water. Dr. Bruère, of the Royal Victoria Hospital and McGill University, also gave evidence. He had made an examination of seventy-five samples of water and in every case typhoid bacilli had been searched for without success. As a comparative study he examined a large number of specimens taken from British Columbia waters. These he found to be very similar, as indeed was to be expected, for all rivers draining large areas have similar bacilli to be found in them. Dr. Bruère also explained that the water varied from one time of year to another, and that at certain times there was danger of pollution of the shore water from the sewers near the intake pipe. In 1903, some of the samples taken were not polluted, some polluted, and others seriously so. In 1904, he noticed private sewers discharging into the intake of the water company. In regard to the Verdun sewer, in December of that year, the examination of the shore water seemed to show that it flowed directly into the intake, thus producing pollution. Dr. Adami declared that he had not yet seen any indications of typhoid in Montreal water. The only evidence that Montreal water was slightly pathogenic was to be seen in the symptoms of strangers who came to the city—diarrhœa—which showed organisms in the water that ought not to be there, but not typhoid. A number of other medical men were examined and their reports went to show that there was a great source of danger owing to the proximity of the sewers to the intake. It is hoped that the agitation will be of benefit not only to Westmount, but to Montreal.

Pure milk for Montreal is again exciting the attention of the medical men and legislators, as the season is approaching when the importance of a proper milk supply is obvious to all. The meeting of the joint committee appointed by Dr. Dagenais, chairman of the Civic Health Committee, by the Montreal Medico-Chirurgical Society, and by the Association Medicale, discussed the question and drew up a set of rules to be adopted by the Provincial Board of Health as soon as possible.

Among the questions discussed was Article 49 of the present system, which forbids the delivery of milk which is older than twenty-four hours, unless it has been sterilized at 220 degrees Fahrenheit, eight hours after it has been drawn in summer, and twelve hours afterwards in winter.

On the advice of Drs. Adami, Blackader and Dagenais, it was recommended that this provision be made optional and practically dropped. Dr. Adami observed in this connection that sterilized milk was devitalized and that children who were brought up on it exclusively did not do well. The best milk in his opinion was that which had been drawn under sanitary conditions, properly cooled and delivered to the customer in clean utensils with the least possible delay. Dr. Blackader agreed with this opinion and stated that he thought that sterilization should be carried on three hours after the milk was drawn, and not eight hours after, as in the regulations, and further that 180 degrees Fahrenheit was sufficient to destroy the ordinary bacteria. These proposals were adopted.

The regulations at present permit cattle to be fed with brewery grain, providing it is dry, but the suggestion was adopted that it would be better to forbid feeding malted grain altogether.

To the article concerning drinking water for cattle there was also suggested an amendment to the effect that wells must be at least 150 feet from water closets, at least 50 feet from stable or sty, and 20 feet from any dwelling, and so built as to exclude surface water.

It was further recommended that milk be cooled to 40 degrees F. immediately after being drawn; that utensils used in the dairy be used for that purpose alone and be rinsed immediately after using, and that the joints of such vessels should be properly filled and soldered and that none but metal utensils be used. Stables must be cleaned out three times a day and the cows supplied with clean straw; that the udders be washed before milking, and that the stables be whitewashed at least once a year.

A number of other less important rules were drawn up, and if they are all enforced Montreal should show a considerably lessened infant mortality this year.

At the quarterly meeting of the Board of Governors of the Western Hospital it was decided that a tablet bearing the name of the late Dr. F. W. Campbell should be placed in the new wing to perpetuate the memory of one who had always taken an interest in the work and had done so much to help it forward. Dr. T. A. Swift was appointed Medical Superintendent at the same meeting, and Miss Craig, Lady Superintendent, in place of Miss Aitken, who was retiring from hospital work.

Dr. Osler surprised the convocation of McGill Science, Arts and Law Faculties by his presence on the platform, and his speech roused the enthusiasm of students as well as the courage of the professors. He stated that until McGill's recent calamity he had always believed in fires, but these losses shook his faith; still there would, perhaps, be within the next few years, when better and larger equipment has been installed, much cause to feel grateful that the flames had awakened the dormant powers of McGill.

CURRENT MEDICAL LITERATURE

SURGERY.

Under the charge of H. A. BEATTY, M.B., M.R.C.S., Eng., Surgeon Toronto Western Hospital; Consulting Surgeon Toronto Orthopedic Hospital; and Chief Surgeon Ontario Division, Canadian Pacific Railway.

THE CURE OF TUBERCULOUS ORCHITIS.

In the *International Journal of Surgery,* January, 1907, C. E. Barnett discusses the present operative necessities for the cure of tuberculous orchitis, and advises the thorough removal of the testis with all doubtful tissue and the removal of the vas deferens down to the bladder.

Barnett comes to the following conclusions:—

1. To be sure of a cure, all that is infected with tuberculosis must be removed.

2. Primary invasion statistics are so variable that the operator should consider testicular tuberculosis primary unless other foci be found that disprove the supposition.

3. The modes of infection are so many that the surgeon should be on his guard constantly. This is especially true as regards infection during the act of cohabitation.

4. The desexation "bug-bear" should be entirely removed from the patient's mind, and instead, encouragement should be given him for a continuation of his copulative power.

5. Injections of paraffine in the production of artificial testes are of value from a cosmetic standpoint, and also because of the great satisfaction they afford the patient. This procedure is entirely devoid of danger when properly done.

6. Operations, when indicated, should be immediate; followed by prophylactic and hygienic treatment until the maximum improvement is gained.

SUBDELTOID BURSITIS.

In the *Boston Medical and Surgical Journal,* March 21st, 1907, Charles F. Painter states that inflammation of the bursa lying beneath the deltoid muscle is quite common.

Traumatism is the usual cause of the bursitis—often a fall upon the shoulder, or the traumatisms connected with occupation.

The bursa is situated immediately beneath the fibres of the deltoid muscle and directly above the fibrous capsule of the shoulder joint. Under normal conditions, it is very thin-walled, contains very little fluid, and

adapts itself accurately to the different positions of the head of the humerus. In size it perhaps encloses an area as large as a fifty-cent piece.

The symptoms of subdeltoid bursitis are pain in the shoulder and upper arm, together with impairment of function at the shoulder joint.

In all of the four cases reported by the writer, x-ray examinations showed a very definite shadow in the region where the bursa was found.

Painter advocates that treatment by open incision and removal of the entire sac should be practised in all cases, be they occupational or traumatic, which have lasted for six months or more.

In regard to the operation, he says:—

The operation is very easily performed. The fibres of the deltoid muscle are separated in a direction parallel to their long axes and the bursa is found very easily beneath the sheath of the muscle if the walls are at all thickened. If this is not the case it sometimes requires a little dissection to find it. It should be thoroughly removed by scissors dissection and the fibres of the deltoid loosely drawn together with two or three catgut sutures and the sheath of the muscles closed over it before suturing the skin. Care should be taken not to get the incision too far out on the point of the shoulder, and it should be made in women so that the shoulder straps of a low-necked gown can be made to cover the scar. It is better to close the skin with a buried silk-worm gut, but if the incision is too far out where the contour of the shoulder becomes dome shaped the skin is inclined to gape open, even though the suture be ever so nicely applied.

A Velpeau or a double sling applied over the sterile dressing gives good fixation and is comfortable. The suture is removed after a week or ten days and passive motion is immediately commenced. Hot fomentations to the shoulder favor the limbering-up process and my experience has been that passive motion is restored to normal in from three weeks to two months, whereas active motion is a little more tardily secured. Pain, except that which is associated with the limbering-up process, is almost immediately relieved.

Prognosis in this class of cases the writer is led to believe from his experience with both the manipulative and open methods of treatment is better through the open method than through simple manipulation. The shoulder joint is not opened; ether has to be given in either case, and the risk of the incision is only the risk of superficial sepsis. The operation is not a long one if the bursa is dissected out, so that any subject to whom it is proper to administer an anæsthetic is in all probability a proper one upon whom to perform the open operation.

Convalescence is much shorter after the open method and the functional results are believed to be considerably better. The writer is of the opinion that there is no advantage in putting the arm and shoulder up in a plaster spica in a strongly abducted position.

GYNÆCOLOGY.

Under the charge of S. M. HAY, M.D., C.M., Gynæcologist Toronto Western Hospital, and Consulting Surgeon Toronto Orthopedic Hospital.

GAUZE REMOVED FROM THE BLADDER AFTER LAPAROTOMY.

Stoeckel, Berlin (*Zentralb. f. Gyn.*, 1907, No. 1) reports that in a girl aged 24, from whom some months previously both ovaries had been removed on account of gonorrhœal adnexal disease, a fistula had persisted in the abdominal scar, and with the cystoscope he detected a foreign body in the bladder, which he succeeded in removing with forceps through the urethra, and found to be a strip of gauze 21 cm. long. Strange to say there had been no cystitis.—*Brit. Gyn. Jour.*

ROENTGEN RAYS IN MENORRHAGIA DUE TO MYOMA.

Goerl, Nuernberg (*Zentralb. f. Gyn.*, 1906, No. 43), adopted the suggestion of Foveau de Courmelles (*ante*, p. 148). in the case of a woman, aged 40, who was suffering from profuse menorrhagia due to myomata. Under treatment by the Roentgen rays the hæmorrhages ceased and the myomata diminished in size. The number of sittings was 43.—*Brit. Gyn. Jour.*

THE PRIMARY AND PERMANENT RESULTS OF MODERN OPERATIONS FOR MYOMATA.

Sarwey, Tuebingen (*Archiv f. Gyn.*, Bd. lxxii., S. 277), reports upon 430 operations for myomata performed in Doederlein's Klinik during the years 1897 to 1904; in 198 cases by the vagina, in 232 by the abdomen. In 41 instances a conservative method was adhered to (amputation or enucleation). The mortality was 3.9 per cent. During the same period 30 other cases left the clinic without being operated upon. In the presence of indications for operation, Sarwey holds that the welfare of the patients is best and most safely served by the operator adopting radical measures whenever the choice is left to him, and that conservative treatment should be reserved for a comparatively small number of exceptional cases. Too much time should not be lost in symptomatic treatment. Whenever distressing symptoms due to the myoma persist or grow worse, it is obligatory to propose the operative relief of the disease.—*Brit. Gyn. Jour.*

HERNIA UTERI.

Trolle, Denmark (*Muenchener m. Wchns.*, 1907, S. 232), reports: In a female child of three months old, an irreducible hernia developed suddenly in the left inguinal region. Hermotomy was performed, and the sac was found to contain the nermal and well-developed uterus and the right adnexa. The collum lay in the inguinal wall, the fundus pointed towards the labium majus, and the uterus was twisted 180° round its left side. The fold of peritoneum forming the broad ligament extended into the sac and formed part of its contents. The case supports Linhart's theory that uterine hernia in its relation to the sac and to the peritoneum resembles hernia of the cæcum.—*Brit. Gyn. Jour.*

RUDIMENTARY UTERUS IN THE SAC OF AN INGUINAL HERNIA.

Nystroem, Helsingfors (*Muenchener m. Wchns.*, 1907, S. 232), reports two cases operated upon in Engstroem's Klinik, in each of which the vagina was altogether wanting. The hernia occurred in the 10th year in one, in the 22nd year in the other. In the former, the hernial sac contained nothing but the rudimentary uterus, in the latter he adnexa were also in the sac, but further inwards than the uterus, so that the current opinion that the parts of the peritoneum immediately connected with the uterus slip into the sac and then draw after them the adnexa and finally the uterus, is incorrect.—*Brit. Gyn. Jour.*

PROLAPSED OVARIES.

Gardner (*Amer. Jour. Obst.*, 1906, December) gives a long list of symptoms caused by prolapse of the ovaries, including one which he had observed with any other pelvic lesion, namely, severe paroxysmal pelvic pain coming on from two to fourteen days before or after the periods, varying in different cases, but constant in its relation in time to the period for each case. When associated with retrodisplacement of the uterus, the author says that the symptoms are due more to the prolapsed ovaries than to the uterine condition. His operation for the relief of the prolapse consists in shortening the elongated ovarian ligament by a couple of fine silk stitches which are passed through the uterine wall internal to the insertion of the ovarian ligament, and then through the latter structure. When these stitches are tied the ovary is brought close up to the uterus, but still retains a limited mobility of its own and a complete mobility with the uterus.—*Bri. Gyn. Jour.*

INTESTINAL OCCLUSION IN PARAMETRITIS.

Kuliga, Marburg (*Monats. f. Geb. u. Gyn.*, 1906, xxiv., S. 598), reports three cases in which exudations in the parametrium caused such compression of the rectum as to lead to occlusion of the bowel, at first incmplete but afterwards endangering life from intestinal paresis. In treating such cases by compression and heat caution is necessary, or exacerbations may be set up; and with the long intestinal tube there is danger of perforating the already injured wall of the gut. The formation of an artificial anus is the best treatment; the exudation being dealt with by promoting absorption most carefully, and if possible avoiding operation.—*Brit. Gyn. Jour.*

AMPUTATION OF HYPERTROPHIED CERVIX DURING PREGNANCY.

Potocki (*Ann. de Gyn. et d'Obst.*, December, 1906) performed this operation on a woman in the fourth month of pregnancy. She had been pregnant once, ten years earlier, and the labor was perfectly normal. For two years she had been troubled with a protrusion of a mass at the vulvar cleft. Hypertrophic elongation of the vaginal portion of the cervix was detected, but she declined surgical assistance until she became pregnant again. Potocki amputated the cervix one-fifth of an inch below the reflexion of the vagina in the anterior fornix. He fashioned two flaps, and took especial care not to make any traction on the cervix at any stage of the operation. The amputated portion measured $2\frac{3}{4}$ inches in length. Hardly any hæmorrhage occurred. The vaginal and the uterine mucosa were united, with as much accuracy as was possible, by means of catgut sutures. The vagina was tamponed with iodoform gauze. One centigram of morphine was injected morning and evening for the first three days. The patient was delivered at term of a male child weighing 7 lbs.; it was reared and became a strong child. Quite recently, six years after the operation, Potocki examined the patient. The uterus was not hypertrophied, the cervix projected only to a normal extent into the upper part of the vagina. Potocki discusses at full length the arguments and evidence in favor of operations on the hypertrophied cervix during pregnancy. When the amputation is performed aseptically and the mucosa of uterus and vagina carefully united there will be no obstacle to normal dilatation of the cervix during labor.—*Brit. Med. Jour.*

OBSTETRICS AND DISEASES OF CHILDREN.

Under the Charge of D. J. EVANS, M.D., C.M., Lecturer on Obstetrics, Medical Faculty, McGill University, Montreal.

NUTRITIONAL DISTURBANCES IN INFANCY DUE TO OVER-FEEDING.

In a most interesting paper, Dr. Joseph Brennemann presents (*Jour. A. M. A.*, April 20, 1907) strong arguments for his rather startling conclusions.

Briefly, he considers that overfeeding is responsible for many of the difficulties encountered in infant feeding.

The symptoms of overfeeding form a clear-cut and easily recognized clinical entity. Restlessness, particularly at night, constipation of a very characteristic type, the movements are pale grey in color, are dry, do not mix with water, and are the color and consistence of putty. The odor is strong and suggests decomposition. The urine has a strong ammoniacal odor and easily produces irritation of the skin. The child's tissues become flabby, it loses color, the abdomen becomes distended and soft. In spite of a large quantity of food being taken the child ceases to gain and frequently loses in weight.

The author makes a strong plea that in every case the energy quotient of the food should be worked out. He quotes Heubner as stating that the energy quotient of the food should be about 100 from the third week to the end of the sixth month, gradually diminishing after that time to about 80 at the end of the first year.

To obtain the energy quotient he gives the following directions: Multiply the number of ounces of each ingredient in the twenty-four hour food by its coloric value, add the products, divide this by the number of pounds the baby weighs, and multiply the result by 2 1-5 to reduce from pounds to kilos.

The coloric value of 1 ounce of 4 per cent. milk is 21; 1 ounce of 16 per cent. cream is 54; 1 ounce of skimmed milk is 10; 1 ounce of sugar is 120, and one ounce of cereal water is about 3.

The histories of a number of cases are given in full.

The author agrees with Holt that the fat content of the food mixture is the one chiefly at fault. For some time he has abandoned the employment of cream. He uses a fat free milk or butter milk, indifferently, as both give good results.

He is convinced that in feeding cases the determination of the energy quotient is indispensable. That it is not merely an interesting study in

physiology, but an intensely practical procedure of the greatest value not only to the scientific pediatrician, but to any man who feeds babies and wants to be sure of results.

The author concludes his excellent paper as follows:—

(1) Overfeeding in this country is so generally prevalent that it is the rule.

(2) Overfeeding is second to no other factor in the pathogenisis of infant feeding.

(3) Overfeeding presents an easily recognizable definite symptom-complex.

(4) The percentage method is inadequate to prevent overfeeding, the well-known "feeding schedules for the average healthy infant of a given age" fostering it by recommending excessive amounts; and, moreover, mere percentage feeding leaves undetermined the amount of food the baby gets.

(5) To feed rationally and especially to prevent overfeeding it is necessary to know how much food the baby is getting in proportion to its body weight, best expressed in terms of energy quotient.

(6) The disturbing element in overfeeding with cow's milk is fat.

(7) Fat in extensive amounts regularly produces constipation—proteids never do so.

(8) It is never necessary to give more fat than proteids of cow's milk.

(9) The interval between feedings should be four hours.

TREATMENT OF PERNICIOUS VOMITING OF PREGNANCY.

Richard C. Norris, *Am. Jour. Obstet.*, April, 1907, states that while abnormalities of the pelvic organs and organic diseases of the gastrointestinal tract may be associated with aggravated nausea and vomiting of pregnancy, he has never noted them as a cause of pernicious vomiting. He classes the cases of this condition as being neurotic or toxæmic in origin, these being by far the most important etiological factors. It is extremely difficult to differentiate between these two types of the disease, since they are not rarely associated. Before making a diagnosis of neurotic vomiting every means must be exhausted to exclude toxæmia. The patient should be isolated and a careful study made of her condition.

The theory that the toxæmia emanates from the corpus luteum or ovary, or from the syncytium lacks verification.

Some cases at least are associated with a toxæmia of intestinal origin and others with a hepato-toxæmia. The study of the blood and excreta offer but little help in distinguishing between the neurotic and toxæmic types of the disease. It appears that there is no definite relation between the urinary changes, the extent of the pathological lesions, and the clinical symptoms of pernicious vomiting.

The work of Ewing, Wolf and Williams is referred to and the author gives the history of a case in which there was an ammonia nitrogen percentage of 38 per cent. which yielded to treatment and went to term. This case, with others, convince Norris that the proportion of ammonia nitrogen cannot be routinely and by itself relied upon to determine for us the necessity for terminating pregnancy in order to save the patient's life. It does, however, serve as a scientific means of determining serious errors in metabolism and perhaps the degree of starvation.

With regard to treatment, Norris finds lavage of the stomach, fractional doses of calomel, given at short intervals, are frequently retained. When possible an effervescent saline may be added.

If the stomach contents are exceeding acid the lavage solution should consist of soda bicarbonate (gr. ii. to oz. 1). He places great reliance on silver nitrate in doses of gr. $\frac{1}{6}$ in a glassful of water every six hours. When there has been a slight improvement a capsule of cocaine gr. $\frac{1}{3}$, cerium oxalate gr. iii., bismuth subnit. gr. v., every four hours will be found useful.

Counter irritation with mustard over the stomach, rectal injections containing bromide gr. xxx. and chloral gr. xx. every sixth hour to allay nervous irritability, and morphia gr. $\frac{1}{8}$ to $\frac{1}{4}$ at night may all find useful application.

The most valuable of any single means of treatment in the author's opinion is the frequent lavage of the colon with warm salt solution.

Feeding by mouth should be given up entirely. Rectal feeding can only be relied upon for but a very short time and as soon as possible stomach feeding should begin. In the early morning while the patient is still under the influence of hypnotics she may be roused and after lavage predigested milk or a solution of egg albumen may be run into the stomach and the patient left to sleep again under the influence of the drugs. He thinks well of Kolpinski's dietetic treatment by means of heavy food such as pork, corn bread, kale and turnips, and would not hesitate to try it.

Suggestive therapeutics is paramount in neurotic cases and valuable in any case. He suggests the insertion and inflation of a rubber bag in

the vagina as an ever present reminder of treatment directed to the pelvic organs.

If after seven or ten days no improvement follows carefully conducted treatment, if emaciation is progressive and the urine shows increasingly high proportions of ammonia nitrogen, then the uterus should be emptied. He recommends rapid dilatation and immediate clearing of the uterus, the patient being under chloroform anæsthesia as being the safest and most satisfactory means of terminating the pregnancy.

MODIFIED WET NURSING.

Thompson T. Westcott, *Arch. Pæd.*, March, 1907, holds that human milk should be used in conjunction with artificial food, as an integral part of a bottle mixture of cow's milk modification or other food mixture, is Dr. Westcott's plea.

As indications for modified wet nursing are mentioned: Profound prostration or weakness, rendering active efforts at nursing on the part of the baby impossible; absolute refusal of the infant to take the nipple; or when a wet nurse cannot be obtained but a supply of human milk may be available from some friend or relative.

He has obtained small quantities of milk from three women to make up the daily supply for one infant.

Every care should be given to the collection and transportation of human milk when it is to be obtained. Contamination is more readily prevented than in the case of cow's milk for obvious reasons.

The average yield per day of human milk should be apportioned in fairly equal amounts for each feeding, and the total quantity of the bottle made up according to the needs of the individual case.

The object of this plan of feeding is, first, to secure a food which can be best appropriated at once by the starving organism of the infant and then to continue this until, by gradual increase, the artificial ingredients of the bottle can be fitted to the increasing demands of the infant, so that the human milk can be dispensed with altogether, and the thriving infant allowed to proceed upon a satisfactory artificial food.

An illustrative case is recorded in which an infant refused to take the nipple of a wet nurse. Her milk was drawn by pump and mixed, at first with albumen water, and later with increasing proportions of cow's milk peptonized.

The Canada Lancet

VOL. XL. JUNE, 1907 No. 10.

EDITORIAL.

ALCOHOL—A MEDICAL COUNTERBLAST.

From the *Medical Press and Circular* of recent date we take the following manifesto on the alcohol question. In our former issue we published one on the same subject. The names to the one in this issue are equally well known with those attached to the former one. Both sets of opinions are worthy of careful consideration :—

"A manifesto with regard to the use of alcohol has lately appeared in a leading medical journal, and has received wide circulation. By reason of the high position in the scientific world held by its signatories, great importance has been attached to the views it expresses. As it appears to us that, both by reason of the wording of the manifesto and of the use to which it has been put, certain misconceptions may arise, we wish to say that we gravely dissent from much of its teaching, nor can we accept it as an authoritative statement of recognized medical opinion on the matter. Without asserting that alcohol has no value in the treatment of disease, we believe that its use is occasional rather than regular, and limited rather than wide. We regard the word 'life-preserving' in connection with alcohol as misleading, and we consider the statement that alcohol has 'the power to sustain cardiac and nervous energy' rests on no certain clinical or experimental evidence. On the other hand we strongly believe that alcohol is unnecessary as an article of consumption in the case of healthy men and women, and that its general use could be discontinued without detriment to the world's welfare.

Further, believing as we do that alcohol is one of the most fruitful causes of poverty, disease, and crime, we are pleased to add that it is now sparingly employed as a remedy by the majority of medical men. (Signed) Frederick Treves, James Barr, William Ewart, Theo. B. Hyslop, William Murrell, T. N. Kelynack, William Carter, Thomas H. Bickerton, F. Charles Larking, Sims Woodhead, J. Ward Cousins, David Walsh, Editor *Medical Press and Circular.*"

THE ALCOHOL MANIFESTO.

From the same issue of the *Medical Press and Circular* we take the following editorial:—

"The recent manifesto on the value of alcohol in diet and in medicine published in the *Lancet* (British) maintains its interest in the public press. The immense mass of correspondence that has flooded the correspondence columns of the lay newspapers emphasizes the widespread importance attached to the question thus raised. As might be anticipated in a contentious matter of this kind some writers have not hesitated to impute motives of a somewhat unworthy nature to the issue of a weighty declaration of this kind. That view may be at once dismissed, so far as concerns the gentlemen whose names are appended to the document. Their position is such that it would be impossible to doubt for a single moment the absolute purity and honesty of their motives, as well as those of the medical journal that published the manifesto. At the same time we cannot help feeling some amount of regret that they should have been led to make a formal public statement at this precise juncture, when the chances of drastic temperance legislation are being eagerly discussed. But we cannot so readily absolve the originator of the document until we have an authoritative statement as to his precise position in regard to temperance legislation, to the vested interest in alcohol, and to the medical profession. We are led to this observation because of imputations that have come freely from various quarters. To put the gist of the matter in a few brief words: 'Who and what was the author of the declaration? Why did he draw up and issue such a document? Why and under what circumstances did he obtain the eighteen medical signatures?' As the opinions expressed in the manifesto have gone out to the world as an expression of accepted scientific medical opinion,, we think that in common fairness the public no less than the medical profession are entitled to a clear and immediate statement upon all the issues involved in the answers to the foregoing questions. In any case it is somewhat difficult to recognize the overwhelming sense of duty that must have influenced the signatories in undertaking so grave a public responsibility, especially when we reflect that their scientific weight is, after all said and done, merely a question of personal guarantee, apart from argument deduced from experimental, statistical and other evidence. As the manifesto has been issued, however, and has attained wide publicity, we have thought it well to obtain an equally authoritative declaration of the scientific medical opinion which declares that alcohol is not a necessity for healthy persons, and has only a strictly limited use in medicine. Dr. Dawson Burns, a well-known authority on temperance matters, has aptly recalled the fact that on at least two previous occasions declarations ad-

verse to the use of alcohol have been issued by medical men. The first of these was issued by a medical man, Mr. Julius Jeffreys, in 1839, and was signed by seventy-eight distinguished members of his profession. It ran:

" 'An opinion handed down from rude and ignorant times, and imbibed by Englishmen from their youth, has become very general, that the habitual use of some portion of alcoholic drink is beneficial to health, and even necessary to those subjected to habitual labor. Anatomy, physiology, and the experiences of all ages and countries when properly examined must satisfy every mind well informed in medical science that the above opinion is altogether erroneous.'

"In the year 1847, the following manifesto was drawn up by three medical men, and signed by nearly 2,000 medical practitioners in the United Kingdom:—

" 'We, the undersigned, are of opinion:—(1) That a very large portion of human misery, including poverty, disease, and crime, is induced by the use of alcoholic or fermented liquors as beverages. (2) That the most perfect health is compatible with total abstinence, from all intoxicating beverages whatever, in the form of ardent spirits, or as wine, beer, ale, porter, cider, etc., etc. (3) That persons accustomed to such drinks may, with perfect safety, discontinue them entirely, either at once or gradually after a short time. (4) That total and universal abstinence from alcoholic liquors and beverages of all sorts would greatly contribute to the health, the prosperity, the morality, and the happiness of the human race.'

"Since the two foregoing declarations, a great deal of scientific knowledge has accumulated around the subject. It is to be regretted, therefore, that sixty years after the latter declaration eighteen leading medical men should have been induced to sign another declaration expressing views that are open to grave question alike by the medical profession and by the laity. As things stand at present we agree with the suggestion of some of our readers that it would be well to inform the world that the opinion of many, if not the majority, of the medical profession, is adverse to the habitual use of alcohol either as a medicine or as an article of diet."

EXIT TRYPSIN FOR CANCER.

Some months ago Dr. Saleeby announced the trypsin treatment of cancer; and he was not alone in the statements made of the merits of this treatment. The case upon which reliance was then placed has vanished, like Creusa of Trojan fame, into the air. The case in which reliance was placed was the one described by Dr. Morton in which it was claimed that there had been a remarkable atrophy of a cancerous breast.

Dr. Bainbridge has recently given a full account of this case, showing that no cure was effected. We may well say, "exit trypsin for cancer." The cure of cancer is still at the foot of the rainbow, and people are still chasing after it, as they do for the fabled pot of gold. There is at present no cure for cancer other than its early removal. Those with most experience will approvingly remember the words of the late Sir William M. Banks: "Attack the disease on its earliest appearance, remove it thoroughly, and closely watch the case for evidence of recurrence." Of the various means of removing cancerous growths it would appear that the scalpel is still the favorite.

VARIETIES OF ARTHRITIS.

Much valuable work has been done within recent years on the subject of arthritis.

One form of arthritis is now clearly recognized as that due to acute inflammatory rheumatism. This disease is now classified by the best teachers as an infection. The organism has not yet been isolated, but the clinical evidence of such organism is quite convincing.

Then there is that form which has been called gout. This is a form of autointoxication from some error of diet, some fault in elimination, or the absorption of some poison, as lead, the disease known as gouty inflammation of the joints results. The process is a chemical one; but just what the real chemistry is there is still some dispute.

Another form of arthritis is that known as arthritis deformans, osteo-arthritis, or rheumatic gout. This disease has no connection with gout. Three main theories have been advanced to account for it. The neurotic, the metabolistic, and the infective. The weight of opinion is strongly in favor of the view that there is some chronic infection in the system.

Another group of cases are clearly of the infective type. We all are familiar with the influence of the tubercle bacillus and the gonococcus in giving rise to destructive inflammations in the joints.

In another part of this issue we publish the paper of Dr. Thomas McRae, Associate Professor of Medicine at Johns Hopkins. It merits very careful study. It is well known that this subject has received very close attention at Johns Hopkins Hospital, and especially at the hands of our esteemed contributor.

Not until the pathology is made out can treatment be more than empirical. There is much yet to be done, but we should ever keep in mind the motto, *nec silet mors*.

SOME APHORISMS IN PROGNOSIS.

A short time ago Dr. P. H. Pye-Smith gave an address before the Bristol Medico-Chirurgical Society. The text of this address appeared in the *Bristol Medico-Chirurgical Journal* of March. Dr. Pye-Smith has enjoyed exceptional opportunities at Guy's Hospital and what he has to say comes with the weight of much authority.

He remarks that children will sometimes struggle through the severest illnesses and recover. "Never give up a child till he is screwed down."

The older the patient attacked by diphtheria, scarlatina, or ringworm, the better the prognosis.

The prognosis in pneumonia and typhoid fever is favorable in children, but the reverse is true in phthisis and diabetes, both being very fatal in children.

Specific fevers are very fatal in old age; but there are some picked lives that recover from pneumonia and erysipelas in advanced age. Very old persons often withstand the advances of cancer, heart diseases, and chronic affections much better than those in mid-life.

Generally, women resist the advances of serious diseases better than men, with the exception of tuberculosis. In many nervous affections the prognosis is better among women than among men. They recover oftener than men from conditions that present the symptoms of cerebral hæmorrhage, tumor of the brain, acute myelitis, or sclerosis of the spinal cord.

The prognosis is usually very bad in acute diseases attacking persons already suffering from chronic diseases. Persons with diabetes, heart dieases, Bright's disease, or some chronic pulmonary affection, are poor subjects for acute illnesses or accidents.

The influence of malaria, syphilis and gout, in modifying the course of other diseases, has been over-estimated.

In febrile diseases a degree of pyrexia, which is unimportant in a child, is serious in an adult.

Whooping cough is dangerous only in young children. Pneumonia is usually benign in the young, but very fatal in the drunkard and the very old.

Malignant diseases are very rapid and fatal in children and young adults, but much slower in the old, and may appear to undergo apparent arrest.

Sudden death is more likely to occur in aortic regurgitation than in aortic obstruction, but more frequent in mitral obstruction than in mitral regurgitation.

Pleurisy secondary to tubercle, cancer, or Bright's disease, is usually fatal. When primary is only serious when the pericardium is involved.

Phthisis, chronic Bright's disease, and chronic heart affections, are now looked upon more hopefully than they formerly were. Considerable advancement has been made in the treatment of these conditions.

BIER'S TREATMENT OF TUBERCULAR JOINTS.

For a number of years Bier's method of treating tuberculosis of the joints has been before the profession, and only within the past year have Dr. Bier and others pressed its claims.

The treatment is founded on the theory that artificial hyperæmia of a part will aid in the recovery from an infection. This belief is reasoned from nature's method of creating a determination of blood to an infected area.

In this method of treatment a rubber bandage is wound round the extremity over some gauze and as far away from the affected joint as possible. The pressure is so regulated as to cause venous congestion without altering the pulse. In the case of the shoulder the pressure is maintained by straps that pass from the elastic band round the neck and the chest. The treatment has not been successfully applied to the hip-joint.

The bandage remains in position for one to two hours daily. If it is left on too long there may be suppuration. The temperature of the affected joint should be raised and not lowered. It has been applied to tubercular diseases of the testicles, by applying the elastic bandage round the scrotum and penis. It has been tried in tuberculosis of the larynx by bandaging lightly low down the neck. It is early in the day to determine the value of this treatment. It is along the very opposite lines to the antiphlogistic plans. It is argued that the true way to destroy an infection is to send plenty of blood to the part. Nature does this whenever she can.

The treatment may be combined with the use of splints and other means of securing rest. Dr. Bier, however, is inclined to favor passive motion.

In treating acute infections by this method, the bandage is applied as far up the extremity as possible from the inflamed part, and the pressure maintained for 20 or 22 hours out of the 24. As soon as the passive congestion becomes properly established the pain begins to subside.

Commencing suppuration may be thus arrested, and acute abscesses converted in cold ones. In chronic abscesses the pus becomes thinner and more plentiful, sloughs are thrown off, and after a time suppuration lessens and ceases.

This treatment has been made use of in suppuration of the sheaths of tendons, in acute osteomyelitis, in gonorrhœal arthritis, boils, and carbuncles.

THE TREATMENT BY IONS.

Professor Leduc, of Paris, has done a good deal of work on what he terms ionic medication. It is well known that if an electric current is passed through a solution containing some salt, decomposition is produced, the acid being set free by the positive pole, while the metal is liberated from the negative. The freed metal element (ion) travels towards the positive pole, whereas the acid travels in the reverse direction or to the negative.

In this way it is claimed decomposition can be effected in certain compounds and their elements placed where wanted. Potassium iodide, for example, in solution may be applied to a part and broken up into its ions, and these made to pass through the tissues between the poles. Thus the medication is made directly to the part to be treated. It is claimed by the advocates of this method that it is far ahead of the giving of drugs by the mouth, as these affect all the tissues of the body, and so may injure many parts while helping the diseased part.

This treatment has been applied with success to arthritis, neuralgia, and pleurisy. Various compounds, such as chloride of sodium, potassium iodide, sodium salicylate, are decomposed and their component elements deposited in the tissues. Fibrous deposits around joints have been removed and ankylosis cured, chronic neuralgia completely relieved, and pleurisy successfully managed.

One of the effects of the treatment is marked relief of pain. Another is the absorptions of the products of inflammation. The body becomes an electrolyte through which the elements of the decomposed saline solution are passed. It appears that a good deal of experience is required to determine the dosage, and the best compounds to employ in any given case. The treatment is still on trial, but so far seems to have yielded encouraging results.

THE MEDICAL COUNCIL ATTACKED.

At the meeting of the British Medical Association held in Toronto last August, Dr. J. H. Elliott, then in connection with the Gravenhurst Sanitarium, read a paper on the subject of tuberculosis. This paper appeared in the *British Medical Journal* of 22nd September, 1906. In this paper the following, among other things, appeared:

"The physician should be proficient in diagnosis, and should endeavor to make diagnosis early, remembering that under sanitarium treatment 75 per cent. of incipient cases recover, of moderately advanced about 15 per cent., and of far advanced cases barely 1 per cent.

To state that the physician is often careless is unpleasant writing, but again and again we meet such cases. An instance, such as the following, is unfortunately far from uncommon. A young man came to me for examination and treatment. I found far-advanced disease, involving all of the left lung and half of the right, with well marked cavity formation in the left upper lobe. There was also intestinal tuberculosis. Sputum, one ounce daily, teeming with tubercle bacilli, and much elastic tissue present. I gave his mother a report, with necessarily an opinion of hopeless prognosis. He is the only son and she a widow. She writes:

"'It is all so uncalled for. I have had him under medical treatment for five months, and all along urged that he have the best attention; and, if his lungs were in danger, I would send him away from home if necessary. I have been exceedingly anxious for four months, and wanted a consultation, but my physician assured me only a few days before my son left home that there was nothing wrong with the lungs. I was so anxious, however, that I sent the sputum to the Provincial Bacteriologist the next day on my own account, with the result that my worst fears were realized.'

"No comment is needed. In my work I see this too frequently."

The *Mail and Empire* of 30th March past quotes the foregoing portion of Dr. Elliott's paper, and makes it the occasion of a severe attack upon the Medical Council. The *Mail and Empire* states that "Dr. Elliott can tell who the mother is; the mother can tell who the physician is. Here is a case at hand that affords the Medical Council an opportunity to justify its existence as a body for the protection of the public, as distinct from the medical profession."

The *Mail and Empire* returns to the attack again on 20th April. In its column editorial the paper deals with the case of a woman who was prosecuted for attending, as a Christian Scientist, a child which died, and compares the case with the one referred to by Dr. Elliott, to the advantage of the Christian Scientist woman. The case of Dr. Crichton is brought up and the action of the Medical Council therein condemned.

The *Mail and Empire* wishes its readers to infer that one of the difficulties in dealing with the tuberculosis problem is the carelessness or ignorance of the medical profession; and then speaks of this as having been condemned by two eminent physicians, namely, Drs. Osler and Elliott.

Now that Dr. Elliott has gone as far as he has in this matter, and has not only referred to the case of this boy and his mother, but stated that "in my work I see this too frequently," and "again and again we meet such cases," it appears to us that he dare not leave the profession under this general censure. It is his duty to remove the case from the

columns of the lay press, and make it a direct medical one. The name of the mother should be made known and the doctor who is stated to have been so careless or ignorant should be given a chance to explain this case. We all know what exaggerated stories some parents will tell, going the length of saying that the doctor killed their child, etc., etc.

How this whole matter came to get into the *Mail and Empire* we do not pretend to say. On 1st April, the foregoing paper gave out a note that the quotation of 30th March, 1907, was taken from the *B. M. J.* of 22nd September, 1906. Dr. Elliott should lose no time in stating to the members of the medical profession that he had no connection with placing this material at the disposal of the above newspaper, and also in setting himself right in the case of the mother, her son, and the doctor in charge of the case.

THE ETIOLOGY AND PATHOLOGY OF DIABETES.

Diabetes has ever been an interesting subject for physiologists, pathologists, and clinicians. It must ever be so where the disease is so largely incurable as it is in the case of diabetes.

Until quite recently, there were two main theories advanced to account for its etiology. The first was the famous glycogenic one of Claude Bernard. By this theory the glucose is conveyed to the liver, where it is converted into glycogen or animal starch, and is stored in that organ until it is required, when it is reconverted into glucose and discharged into the blood. In diabetes according to this theory the liver may be unable to convert the glucose into glycogen, or convert the glycogen freely into glucose again, and in either way too much glucose would find its way into the blood.

The second theory was that advocated so ably by Dr. F. W. Pavy. In this theory there are two lines of defence—the intestinal villi and the liver. The lymphocytes and the columnar epithelium of the villi feed upon the glycoses and starchy foods, and in this way carry these into the tissues. Any portion that escapes the villi passes on to the liver, where it is converted into glycogen or fat.

But these theories have never carried full conviction, and there has been diligent search for other causes of diabetes than the failure of the villi or liver to digest properly all the glucose, or of the latter making too much glucose from its stored glycogen.

To meet the difficulties in these theories many have sought for the cause in some disease of the pancreas. It was noticed that when the islands of Langerhans became diseased or atrophied the person had suffered frequently from diabetes. But here again there was a lack of

unanimity. The strong advocacy of Van Noorden did not make the theory acceptable to all.

Lately Lorand has urged that the thyroid gland is an important factor in the causation of diabetes. He points out that when this gland is too active, or the condition of hyperthyroidea, there is likely to be glycosuria. When the over activity of the gland is temporary the glycosuria is temporary. He has pointed out that in cases of glycosuria with Graves' disease and in some cases of diabetes, if the thyroid undergoes atrophy the glycosuria ceases. He has also called attention to the diabetes of children as to its rapid type, as at that age the thyroid is active. The excessive use of thyroid extract in the treatment of myxœdema may cause glycosuria.

It would seem that the ground has shifted away from the liver and intestinal villi to the islands of Langerhans in the pancreas and the thyroid gland, defect in the one and over action in the other being the modern theory of Lorand.

The nervous theory has been mostly discarded, except in so far as it might influence the glycogenic function of the liver, or stimulate the thyroid gland to a state of undue activity. Lorand regards heavy meat-eating as a stimulant to the thyroid and a cause of diabetes.

When the pancreas is removed in dogs, the thyroid gland becomes very active and contains much colloid material. Similar changes are found in fowls fed on meat, and in Graves' disease. When the thyroid gland is too active it forms a toxic product which liberates the carbohydrate radicle in proteid molecules.

It will thus be seen that there are two main factors in the etiology of diabetes: degeneration in the pancreas and hyperactivity of the thyroid gland. If the pancreas is degenerated without over-activity of the thyroid, the diabetes will be moderate; but if the thyroid is over active then the diabetes will be severe.

THE MEDICAL MANAGEMENT OF OUR ASYLUMS.

Two classes in every community demand from the general public special attention—the children and the insane.

The latter class must be cared for in institutions properly provided with every convenience for their care, custody and treatment. The modern idea of an asylum for the insane is vastly different from that of a place where the insane are confined and removed from the community for its safety. All this is very well in its place; but the asylum must be a place of protection for the insane themselves, a place where their wants and ailments are studied.

We have outlived the days when those afflicted with some form of mental trouble were regarded as under the possession of some evil spirit. We are also fast passing away from the view that insanity is some form of abstract or metaphysical condition, some derangement of the mind, a thing of which we know nothing, except in its workings. We are now practically on the ground that the mentally afflicted are physically unsound in some way, are diseased bodily.

There may be some organic disease which is setting up some important and abnormal chain of reflexes; there may be some badly nourished condition of the nervous system; there may be some poisoned condition of it from faulty metabolism, defective excretion, the inhibition of some form of toxic material, alcoholic or metallic, or the toxines of some living organism; or there may be something wrong with important glands, as the thyroid, the adrenals, the parathyroids, the hypophysis, or others not yet made out; or there may be an inherent tendency in the nervous system in some portion—the neurones—to become old too early in life, to show signs of presenility, the condition so well described by Sir W. R. Gowers under the name of abiotrophy.

But it matters not whether the insanity is the result of an injury, or a poison, or poor nutrition, or a degeneration, there is the same need of a physician or a surgeon to care for the case. This brings us to the point of our argument.

The general public must ever be the guardian over the insane. This means a heavy expenditure of money, after every deduction has been made for what is voluntarily contributed through the friends of those committed. To secure the best results for this heavy outlay the medical service of our asylums should be—must be—absolutely non-political in its choice. The system of promotion must be on merit and on merit alone. If the political party in power for the time being wish to reward a doctor who has been a party worker, it can do it in some other way than by appointing him to the position of medical superintendent of an asylum. These appointments should be on merit, and in nearly every instance such appointments and all other promotions should be limited to those in the service of the various asylums.

In this way there would come to be a special class of medical men who would be giving their time to the study of insanity, both etiologically and therapeutically, and this would bring its own rich reward. The public funds should be expended for a higher object than that of merely providing cities of refuge for the insane. We wish to treat the insane and make as many as possible useful for something, even in helping to defray the cost of their own maintenance, and also in finding out more about the etiology in order that preventive medicine may be applied here

as in so many other fields of the healing art. No greater work lies before us than the study of eugenics and the prevention of insanity.

Then, again, the various provinces should become liberal to the doctors who are giving their lives up to the study, and care, and treatment of the insane. The entire medical service should be treated as a permanent civil service, should in other words be placed on a footing of fair pay and a retiring annuity. It is not fair, it is not manly, to ask a young doctor to enter the service of our asylums on inadequate remuneration. He should be paid well, and still further be rewarded by promotion if his duties are well done. Let every one earn his spurs; but when he has earned them for goodness sake give them to him.

In the interest of the public, in the interests of the insane, in the interests of the medical profession, in the interests of science, in the interests of true economy, let us have a well paid and permanent asylum medical service. To place an army under an inexperienced general is a sure way of losing men, and guns, and battles, and frightfully adding to the cost of war. So in our asylums. Economy can only be secured on the lines of efficiency; efficiency requires long years of training, and those who train and become efficient in the discharge of a sacred public duty must be properly rewarded by that public.

SOME RESULTS OF VENEREAL DISEASES.

A vast amount of the sterility, miscarriages, chronic invalidism and death is due to venereal diseases. At least 45 per cent. of sterile marriages is caused by gonorrhœa. It has been determined that the gonococcus may remain in the genital passages for years, and infect another person.

It is well known that when the gonococcus finds its way into the uterus the tubes rarely escape, and that from the urethra, the infection travels to the adjoining glands and their ducts, and may reach the epididymus. The inflammation caused in the uterus gives rise to an alkaline reaction. These conditions are inimical to the spermatozoa.

It has been estimated that as high as 60 per cent. of pelvic diseases is caused by gonorrhœa. This is a heavy sickness bill. Then, again, there are many examples of serious injury to the joints from the same infection. The evils of urethral stricture are well known. A very large proportion of the blind are so because of gonorrhœal infection of the eyes. Many infant females become infected in their genital organs from gonorrhœal from their mothers.

It must be borne in mind that general paresis, locomotor ataxia, aneurisms, apoplexy, and many bone diseases are closely related to

syphilis. To this must be added the many troublesome skin diseases and the many premature births and deaths in infancy.

It may be laid down as a truism that directly or indirectly venereal troubles take their place among the front ranks of the death producing diseases.

What can be done to prevent these diseases and mitigate their effects? Several plans have been suggested. One is the licensing of places under inspection. By this means disease is to a very great extent controlled. Another plan is that of trying to stamp out prostitution by severe legal prosecutions and strict police regulations. This has always failed. Another plan is that of spreading information among the people. In several countries societies have been formed for this purpose, and we are glad to learn that one is now organized in Canada.

We hope that the various Provincial Governments will take up the matter and defray the cost of such leaflets as might be thought well to circulate among the older children in the schools, and throughout our colleges. Instructive pamphlets might also be prepared for the guidance of the teachers. By these means much useful information could be got into the hands of our young people at a time in their lives when it would likely be of use to them.

We do not hesitate to say that some instruction should be given in our colleges, collegiate institutes and the senior forms of the public schools on the evils of venereal diseases. Such instruction would surely be of much value. There has been far too much reticence on these topics in the past. We hold that *salus populi suprema lex est.*

PROFESSOR OSLER'S MODERN MEDICINE.

For some time it has been known that Dr. Osler had in hand the editing of a New Practice of Medicine. Of this series of seven volumes the first is to hand. We have examined it with much care, a task which was one also of much pleasure. It is a volume replete with information; it is up to date, and in most elegant style. The plan of the work is the same as the systems edited by Reynolds, Pepper, Thomson and Loomis, Nothnagel, and Allbutt. It proposes to cover the whole field of general internal medicine. The articles that appear in the first volume are of the highest order of merit, and justify much expectation for the future volumes. Dr. Osler's acquaintanceship with the leaders of medical thought places him an unusually happy position with regard to the arrangements for the distribution of the sections to the hands of those best able to deal with them. The first volume is a strong one, and sets a high model for

those that are to follow. We need not say that we hope to see this work have a large sale—we know it will—and for this we are glad, as it will be a great boon to be possessed of this "Modern Medicine," as a guide in the very many perplexing duties the profession have to perform.

The work is published by Messrs. Lea Brothers, of Philadelphia, and is for sale in Canada by Messrs. McAinsh & Co., of Toronto.

SAVE THE CHILDREN.

From all over the world, through the medical journals comes the cry "Do more for the children." The conditions of child life in many homes, in many schools, in altogether too many workshops is well nigh intolerable. This should not be. The child's years are its growing years; and it should never be forgotten that a healthy child is the proper foundation on which to build a healthy man or woman.

The mortality among children is altogether too high. Much can be done to cut it down, and it must be cut down. This is a duty resting upon the State. It will not do to leave this any longer to the unaided efforts of the medical practitioners of the country. They must be assisted out of the general purse. The *people* must furnish the means, they must provide proper literature upon the subject of the care of the child, and they must provide paid instructors and inspectors.

THE CANADA LANCET has long advocated needed reforms along these lines, and welcomes to its aid in this good work the co-operation of so many other journals. There are many wrongs to be righted, and established conditions die hard. By united effort, however, the necessary reforms must come. We are glad to note that there are hopeful signs in the air for some useful legislation in Ontario.. Of the 90,000 deaths annually in Canada, no less than 23,000 occur among children under one year of age.

THE VALUE OF HEALTH AND LIFE.

According to the census of Canada, the average earnings of all employed males is $387.16, and of all the females $181.98. There are 814,930 persons employed of all classes over 16 years of age, with a total earnings of $286,534,850 a year, or $20,000,000 more than the total debt of the country. There were 107,661 persons of whom there is not a complete return. Allowing that these had the same income, the total earnings would be $321,500,000, or $55,000,000 more than the national debt. There are 5,000 males and 5,000 females die yearly of consumption. This would represent an annual loss of $2,845,700. A little might well be spent by way of prevention.

Now suppose the Federal Government set aside, say, $200,000, for the purpose of securing better means of dealing with consumptives, and preventing the spread of the disease, the money would be well invested. To offset this outlay, it would only be necessary to save 345 males and 345 females; and this could easily be done. While the country is crying out for people to come to it and settle upon its lands and fill its workshops, we are allowing those who are here to die of diseases that can and should be prevented.

The same might be said of typhoid fever as is said of consumption. There is altogether too large a death rate among children. These are coming problems and must receive the attention of the State.

No one man, nor group of men, can deal with these questions other than advising what should be done. It is the State's duty and the burden must be carried by the great broad shoulders of the State. *Salus populi suprema lex e. ..* Let us live up to this. If we took proper steps to prevent tuberculosis in five years there would be very few cases. If we would only stop to think what this would mean to the country we would not hesitate at the spending of a few hundred thousands each year to secure so desirable a result.

When the League for the Prevention of Tuberculosis approached the Federal Government for aid in its work, some nice words were said to them and a couple of thousand dollars voted to help to carry on the work of education. Ten times this amount is often spent by both parties in carrying an important election.

Preventive medicine is one of the best investments the country or any Province can put its money in; and the man who will take it up vigorously will make a name and fame for himself.

ONTARIO GOVERNMENT AID TO HOSPITALS.

For some time it had been felt that the Ontario Government should do more for the hospitals of the Province than was being done.

A strong appeal was made by a number who are interested in hospital work for better conditions. Mr. Hanna heard the deputation and has made two very important changes in the law.

Formerly the Government grant to hospitals was $110,000 a year. This was divided according to the returns from the hospitals of the numbers entitled to share in it. The allowance for some years back has been about 16 or 17 cents per day for poor patients. The Government has seen its way to change this plan into the definite grant of 20 cents per day. This will be a very material help to all the hospitals.

The other condition raised by the deputation was that the Government grant was only paid upon such patients as the hospitals did not receive more than $3.50 per week from. It was urged that this should be raised. This request has also been favorably considered and the scale is raised to $4.90 per week.

Thus the hospitals of Ontario may receive from patients, their friends, societies, corporations, or municipalities, $4.90 per week, and still retain the Government grant. It is possible, therefore, for hospitals to work the income on public ward patients up to $6.30 per week. or the sum total of what is received from the patients of $4.90 and the Government grant of $1.40.

These are two very important changes and will do very much, indeed, to improve the condition of all the hospitals of Ontario.

THE MEDICAL PROFESSION.

It is admitted that the ideals of the medical profession are high. This in no small measure is due to the code laid down by Hippocrates, which the disciples of Æsculapius have tried, through all ages and in all countries, to live up to more or less completely. It is interesting to examine why the standard of the medical profession is so high, as it cannot well be argued that it is due to the individuals of whom the profession is composed as compared with other callings in life.

At the very outset we notice a great distinction between the trader and the tradesman on the one hand and the doctor on the other. The former sell their goods or their labor at a fixed price to all, and do not give their merchandise or their time free because the purchaser is poor. The doctor works on an entirely different plan. He has a tariff, but it cannot always be applied. He has frequently to vary his fees to suit the patient, or render his services quite free of charge. In this the physician is unique.

Then, again, if a person goes into a store he is supposed to know what he wants and to be able to judge of its quality. This is not the case with the patient and the doctor. The former seldom knows what is best for him, and still more seldom is capable of passing an opinion upon the value of the advice he receives. The doctor alone must be the judge on these matters. Thus the doctor is placed in the position of being compelled to act solely in the patient's interests in the capacity of a trustee.

In the commercial world the object of gain or profit is the real incentive to labor or to advance one's business. In the medical profession, on the other hand, the real motive is to better the condition of the patient. If this brings success and popularity good and well, but it is wholly altru-

istic in the first place. It may be said with truth that there are individual practitioners who attend patients and perform operations solely for the fees, but this is by no means true of the profession generally. A tradesman sells the goods asked for; the doctor only gives the advice good for his patient. It is important that this guiding principle should be kept ever before the profession's mind.

The tradesman is allowed great latitude in the matter of advertising, and this liberty is frequently seriously abused. In the case of the medical profession, it is regarded as subversive of its best interests to resort to the columns of the press, as a means of securing patients. Notwithstanding this the competition within the ranks of the medical profession is keenly felt, but it should be an honorable competition and freed from the animosities so often witnessed in the business world.

In the medical profession there is a world-wide usage that the poorest are entitled to attendance. This lays upon the shoulders of every practitioner a heavy demand upon his time to meet the demands of charity. But we think it is possible for the doctor to go too far, and give attendance to many who could pay, or, at all events pay something. This phase of the medical code of ethics has been greatly imposed upon by the public. The doctor's course of study is both long and expensive, and he has many years of waiting before he realizes much from his calling. It is only fair that during his working years he should make some compensation for his family and his own old age. It is here that the individual doctor must not be too altruistic. The desire to obtain free attendance at the hands of the medical profession and in hospitals is becoming too common. So much so is this the case that medical men see that steps must be taken to restrain it.

Another problem that the profession should deal with is that of lodge practice. This is a great and growing evil. There is no gainsaying the fact that these lodges are taken on a basis which does not pay the doctor for his services. Now, several effects follow from this. There is a temptation to give less careful attention to lodge patients. This is most injurious to the practitioner and an injustice to the patients. Then there is the tendency to relegate the work to men who are not the best type of practitioner, and the effect of this again is very apparent. There is the other evil that it overworks a good doctor so that he cannot give proper attention to his cases. Both he and his patients suffer by this. But it tends to pauperize the public. These lodges know they are getting their attendance too cheap. There is only one remedy. It cannot be regulated; the profession must have done with the whole thing, take a lodge as a family and charge for the services rendered. If the lodge is composed of poor persons a minimum scale might be agreed upon, but still a reasonably fair reward for the doctor's attendance.

The profession must stand united to resist influences from without its ranks. We are living in a terribly commercial and mercenary age. Competition threatens to break down many of the ideals of the medical profession. If, however, the profession is true to its ideals all will be well and finally become rightly adjusted. The medical profession has three problems ever before it: First, to uphold its dignity and live up to its traditions; second, to resist the undermining commercialism of the age, which threatens to introduce into it the lower methods of trade; and, third, to so regulate things that the doctor may have a fair chance of a proper reward for what he does.

NOTIFICATION OF PHTHISIS.

Of all the infectious diseases, phthisis still holds the lead as a cause of death. It has been well and truly said that no age is free from its ravages; but, while this is true, the great incidence of the disease is in the maturing years, up to about 30. It is, therefore, clear that the disease removes its victims at ages when life is most keenly enjoyed, and is soon to be of most value to the home and the State.

A close study of the disease goes to show that certain localities yield an unduly large number of deaths. This may be due to some conditions of soil or climate, but is more likely to be the result of endemic infection. It is now well known that whole families are wiped out by the disease. One after another contracts it and dies. This is the house type of consumption that formerly was thought to be an act of Providence, but is now known to be the outcome of violating the ordinary laws of sanitation. Another feature of the disease that has attracted some attention is the frequency with which it is met in some factories and workshops. These appear to have become infested with the bacilli, and are most deadly to those who are employed within their walls.

All this teaches, if anything could teach such a lesson, that the disease is an infectious one; and, as such, should be surrounded by all the safeguards possible. It is all very well to say that many persons recover from phthisical infection, but the stern fact remains that about one-seventh of the entire human race die of the disease, and these mostly in the younger years.

There should be no objection to the notification of phthisis. The community has found it necessary to demand the notification of scarlet fever, smallpox, diphtheria, etc., and for the safety of the public to incarcerate the insane and the criminal. The person who goes about with tubercular bacilli in the lungs is a positive source of danger to the public.

It would be much better that this fact should be made known, and that such a person should not be allowed to work in a factory with others, serve in an office where others are employed, or teach children in a school. Now, every doctor in the country knows that such things are of daily occurrence.

When we come to the question of notification of such a disease as consumption, there comes up the other question of by whom? It is clear that the doctor is the one who must be charged with this task. We have always held that it is unjust to demand the doctor to report contagious diseases, and run the risk of being fined for neglect of duty, and receive no remuneration for such a valuable service to the public. These diseases should be reported, and the doctor should be paid for his services.

Should such a course ever be adopted in connection with phthisis, the first step would be taken to really lessen the prevalency of the disease. Once it became known where a case was, steps could be taken to insist on proper precautions for the family, the shop, the school, and the public. This would not involve any hardship upon the sufferer from the disease, and would be a boon to those not yet infected.

But we think that a leaflet should be prepared and printed at the expense of the State, of which a copy would be given to every school child to be taken home. Or these leaflets could be distributed to every house by some means. The Government controls a free mail service. In such a leaflet emphasis would be laid upon the cause and prevention of the disease. By this means the attention of the people would be fixed upon the two main features at issue, namely, that the disease is communicated from the sick to the well, and that this communication can be almost entirely prevented by proper care. Let us talk less of cure in the future than we have been doing in the past, and look more to what is possible and immediately within our reach, prevention. This we can do while the bacteriologists are searching for a serum or an opsonin, which may, like the pot of gold at the rainbow's foot, be very elusive.

ALBUMINURIA FROM THE INSURANCE STANDPOINT.

It is a very important feature of every examination for life insurance, the presence or absence of albumen. It is necessary to protect the interests of the company and the applicant at the same time. A bad risk should not be recommended, and an eligible one should not be refused the protection or investment he seek.

The following conclusions from Dr. Osler are worthy of special notice, as they cover the subject pretty fully:—

"In the interests of the company, we should reject *all* cases in which albumen occurs in the urine, in the young and old." (This, as Prof. Charles Lyman Greene states, applies only to *ordinary life cases*.1

"With reference to the significance of albuminuria in adults, I quite agree with the conclusions of F. C. Shattuck (says Dr. Osler):—

"(1) Renal albuminuria, as proved by the presence of both albumen and casts, is much more common in adults, quite apart from Bright's disease or any obvious source of renal irritation, than is generally supposed.

"(2) The frequency increases steadily and progressively with advancing age.

"(3) This increase with age suggests the explanation, that the albuminuria is often an indication of senile degeneration.

"Though it cannot be regarded yet as absolutely proved, it is highly probable that faint traces of albumen and hyaline and finely granular casts of small diameter are often, especially in those past fifty years of age, of little or no practical importance. The uric acid diathesis may lead to gout, with uric acid deposits in the joints, acute inflammations and arterial and renal disease. The disturbed metabolism produces changes in the capillaries and capillary circulation, bringing on arterio-capillary fibrosis, and its consequent chronic interstitial nephritis.

"An occasional trace of albumen in men over forty, with or without a few hyaline casts, and with increased tension and thickened blood-vessels, usually indicates changes in the kidneys.

"The persistence of a slight amount of albumen in young men without increased arterial tension is less serious, as when even continuing for years, it may disappear.

"In chronic interstitial nephritis albumen is often absent or transient —even when the disease is well developed."

"After the fortieth year, from the standpoint of life insurance, the state of the arteries is far more important than the condition of the urine."

In conclusion we may state that medical selection in life insurance as it is written to-day is in accordance with twentieth century, conservative progress. The idea of accepting only average good risks, as adopted by the first American companies, is still adhered to by the majority of old line companies. But one by one, through the knowledge gained by statistics, covering a period of more than half a century and by the aid of actuarial computations based upon careful medical examinations and advice, companies are commencing to issue policies on substandard lives, by fixing special premiums; and it is by this process that applicants with albuminuria are able to be accepted, after repeated chemical and micro-

scopical examinations of the urine have been made to afford sufficient knowledge of the cases.

It is necessary, however, in arriving at a correct estimate of the risk to ascertain the true cause of the albumen in the urine. If it be renal in its origin, the utmost care must be exercised. There may be an exudate of serum or the discharge of pus, from the bladder, the prostate, the seminal vesicles, or the urethra, of sufficient amount as to lead to confusion, unless special care be taken.

FIGHT AGAINST TUBERCULOSIS.

In the press of a few days ago we were informed: "It is understood that the Minister of Education has under consideration the framing of regulations, and the adoption of legislation, if necessary, with a view to preventing the spread of tuberculosis in the schools. The advisability of including lessons on the subject in the schools textbooks is also being considered. The regulations may provide for more uniformity in respect to the medical inspection of teachers and pupils, particularly in sections where tubercular diseases are known to be somewhat prevalent."

We are glad that the good work of THE CANADA LANCET is being recognized. For years we have urged that the time had come when something definite and practical should be done. Many a time we have pointed out that the Federal and Provincial Governments should do something decided and substantial to prevent the spread of tuberculosis.

We have pointed out many a time that the tubercle bacilli do no exist free in nature, and only live for a short time after they leave the human body. Further, we have pointed out that each case of tuberculosis is the result of a previous case. Prevention is the real remedy, and not cure. We have gone the length of saying that if true preventive measures were taken up in earnest the death rate of 10,000 a year in Canada would soon disappear from our midst, with all the sickness and suffering entailed by it.

The Canadian statistics show that the average earnings of all males is $387 and for females $182 per year. The average age of death for consumptives may be set down as about 25 years. At this age the expectancy of life is 38 years; and the annuity value of one dollar at 4 per cent. is about $19. This would show each male life lost to be worth about $7,000, and each female life to be a loss of $3,500. Five thousand of each class would give a grand total loss of $52,500,000 annually from consumption alone. From this must be deducted the cost of maintenance to arrive at the net loss. Allow $3 per week as the cost of maintenance, or a total of $15,600,000 a year for 10,000 persons, and there is left a

net loss of $36,900,000 a year from consumption alone; and yet the Governments of the day are doing nothing to stay this frightful loss!

It cannot go on for long. We shall not cease urging this matter till the public conscience is aroused. When this has taken place there will be some hope of controlling the spread of tuberculosis.

PERSONAL AND NEWS ITEMS.

ONTARIO.

Dr. G. W. Ross, formerly with Sir A. E. Wright, has taken charge of the inoculation department of the Toronto General Hospital.

Dr. Oscar Klotz, recently of Ottawa, has been appointed to a position on the staff of McGill Medical College.

Major Dr. Vaux, who has been stationed at Stanley Barracks, Toronto, has gone to Britain for a year of study at Aldershot.

The reported retirement of Dr. J. R. Russell, Medical Superintendent of Hamilton Asylum, was officially confirmed a short time ago. The Government has not yet appointed a successor.

Dr. H. R. Spence, B.A., one of this year's graduating class in medicine at Queen's, has accepted a position as house surgeon in the Hamot Hospital, at Erie, Pa.

It is understood that no work will be done this season on the new General Hospital for Toronto. The work of securing the site is progressing, and the board is busy with plans.

On the instructions of the Minister of Agriculture, a first-class, thoroughly equipped hospital tent is being erected near the immigrants' lodging house on the corner of Peter and Wellington streets, Toronto, for the isolation of cases of measles among the immigrants.

Professor Baker, of the University of Toronto, believes that athletics are being carried too far in the universities. And this, no doubt, is due to the influence of Plato on the academic mind, that immortal philosopher having the shoulders of a Rugby full-back.

When one looks over the pages—bright pages—of the *Canadian Nurse*, it at once appears how much need there was of this journal, and how well it is fulfilling its mission. All success to it. It will be a power for good among the nurses of the land.

On the instructions of the Minister of Education of Ontario, a number of skulls of aborigines and other specimens have been sent from the Provincial Museum to McGill University to replenish the burned-out museum there. If required, McGill will also be supplied with a number of specimens of Ontario minerals.

The Right Hon. James Bryce, speaking to the students of the University of Toronto, said: "The pursuit of athletics is carried beyond all reasonable limits in some parts of the world. We have a great deal of it carried to an inordinate extent in England. It has brought with it a real vice, namely, the habit of betting."

Miss Addah Strouse of the Adirondacks Sanatorium, Saranac, N.Y., has been appointed lady superintendent of the Muskoka Cottage Sanatorium. Miss Strouse is a graduate of the Philadelphia Hospital Training School of 1901, and for the past three years held an important position in the well-known sanatorium at Saranac, founded by Dr. E. L. Trudeau.

The Toronto Medical Health Officer's report for April is very satisfactory. There were 48 cases of diphtheria reported, as against 53 in March and 39 for April, 1906. The scarlet fever cases were 65, as against 40 the previous month and 34 in April last year. There were 5 typhoid fever cases as against 12 in March, and 7 in April, 1906. There are five smallpox patients in the Swiss Cottage Hospital.

The Bulletin of the Toronto Hospital for the Insane is the latest journal devoted to the interests of medicine to make its appearance. It is edited by Drs. C. K. Clarke, W. K. Ross, J. G. Fitzgerald, and Harvey Clare. The first number is bright and full of useful matter. It would be well if the profession generally read more on the subject of psychiatry. There are too many persons afflicted with mental diseases to pass them over lightly. This new journal may be the means of doing much good and awaken more interest in the work of the asylums.

Dr. D. M. Bell, Provincial Health Officer, recently returned from a visit to the Townships of Hay and Stephen, in the County of Huron, where he reported sixty cases of smallpox, most of which were in the village of Dashwood. Until the arrival of Dr. Bell in the community many of the cases had not been visited by a doctor, and not till the more serious ones were noticed by the local physicians was the Health Department notified. One patient died after Dr. Bell had arrived. The local authorities have since looked after all the patients through a system of quarantine

Dr. Goldwin Smith, addressing University of Toronto students, "advised them not to overwork, as he attributed his longevity to the short hours he put in at school. The human mind, however, he said was not like a pot into which anything could be poured. It must have receptivity or it could not digest what it received. In regard to athletics, they had gone beyond all limits. He played football when at Eton and nothing was kicked but the ball. Now everything was kicked but the ball. There was also great danger in hazing, a most ignoble and unmanly thing, that made strong boys tyrants and weak boys cowards."

Dr. G. Tweedie, resident superintendent of the Isolation Hospital, has resigned, and Dr. W. F. Bryans is temporarily in charge. The resignation was placed before the Local Board of Health by Dr. Sheard, City Medical Health Officer. Dr. Tweedie's letter of resignation was to the effect that owing to ill-health and the infirmities incidental to advancing years he felt that he needed a prolonged rest. Dr. Sheard expressed regret at the resignation of Dr. Tweedie, who had been superintendent of the Isolation Hospital since the building was erected about sixteen years ago. The salary has been $1,200 a year.

With reference to the application from Dr. J. N. E. Brown, Superintendent of the Toronto General Hospital, for renewal orders for certain patients who had had three months' care and wished an extension of time, the Medical Health Officer reported against the extension. He stated: "If we are to keep chronic cases in the hospital indefinitely we are going to increase the cost of hospital maintenance enormously, and, considering the difficulties in providing funds to meet the hospital demands if such requests continue, I think the city will be face to face with the question of providing some other means of hospital maintenance." The Board decided to ask the Medical Health Officer to report on each case individually, as it was not deemed advisable to lay down a hard and fast rule in a general way.

In his report to the Internal Management Committee of the Board of Education, Hamilton, Dr. Roberts, Medical Inspector of the Public Schools, stated that he had examined the children in all the schools except four He found that 1,267 children had defective teeth, 113 defective vision, 14 defective hearing, 3 defective speech, and 18 whose general health was not good. He recommended that Victoria avenue school be better ventilated. Dr. Carr said some of the Board of Health members objected to Dr. Roberts receiving pay for this work, but the trustees thought the report justified his appointment. Members of the Dental Association have volunteered to do the work on school children's teeth, and the Board will endeavor to have the Hospital Governors provide a dental infirmary in connection with the City Hospital.

MARITIME PROVINCES.

Dr. Pugsley is Premier of New Brunswick. The healing art is not the only one in which doctors can come to the front.

Largely through the efforts of Dr. A. P. Reid, Medical Health Officer for Nova Scotia, a useful Public Health Association has been formed for the Province. The membership of the association is open to all who desire to promote the interests of the public health.

The Cumberland County Medical Society elected the following officers: President, Dr. MacDougall, Parrsboro; First Vice-President, Dr. Porter, Oxford; Second Vice-President Dr. Wardrobe, Springhill; Third Vice-President, Dr. J. R. Smith; Secretary, Dr. J. R. Millar; Treasurer, Dr. Mackinnon.

At the request of Mr. A. McKay, Supervisor of Schools, Halifax, N.S., three schools were medically inspected to ascertain the physical condition of the children. The results showed very clearly the great need for such supervision. Many of the children were afflicted with bad teeth, defective sight, running ears, poor health, nasal catarrh, adenoids, etc. In one school 8 per cent. of the children had pulmonary tuberculosis.

WESTERN PROVINCES.

The Government of Alberta is going to found a Provincial University at Strathcona.

The Winnipeg Board of Health intends inspecting hotel and restaurant kitchens. In this way insanitary conditions may be controlled.

Dr. Lineham, of Dauphin, has sold his practice to Dr. McKay, from Nova Scotia. He intends going abroad to study eye and ear work.

Dr. A. S. White has settled at Togo, where this family have arrived from Wisconsin.

Dr. Mary Magill is contemplating the opening of a maternity hospital somewhere north from Calgary.

Dr. F. E. Watts, from Toronto, of the Ontario Board of Health, recently visited Kenora and Carberry.

Dr. E. D. Hudson has gone into partnership with Dr. Lawson of Hamiota.

Dr. Johnstone, of Regina, was recently married to Miss Atkins, of Vancouver. He will continue in practice in Regina.

Dr. F. H. Mewburn, of the hospital in Lethbridge, has been very ill with blood-poisoning.

Dr. Stevenson has sold his Ponoka practice to Dr. Brandon, and has gone to Wetaskiwin.

Dr. Leeming, city bacteriologist for Winnipeg, has gone to Britain for three months to devote himself to special study.

The Council of the College of Physicians and Surgeons of Manitoba recently took a plebiscite on the subject of reciprocity. This is a good way to ascertain how the profession feels on this important subject.

The *Western Canada Medical Journal* ridicules the present custom of placing all health matters under the Minister of Agriculture. So say we all.

The Kenora Board of Health has demanded the prompt reporting of chicken-pox or any similar disease. It is hoped in this way to check the spread of smallpox, which had appeared there and at Moose Jaw.

Dr. Harry Morell, formerly of Litchfield, Minnesota, has decided to locate in Winnipeg. Dr. Morell was an army surgeon during the Philippine war.

The following changes of location should be noted: Dr. Duddridge, of Snowflake, Man., is now in Carlyle; Dr. Ella Synge has started in Edmonton; Dr. Leech, of Swan Lake, has started in Taber, Alta.; Dr. Armstrong, Regina, has gone to Prince Rupert.

BRITISH COLUMBIA.

Dr. De Wolf Smith, Medical Health Officer, New Westminster, B.C., has resigned, as his practice required all his time.

Dr. H. R. Nelson and Mrs. Nelson have returned from their trip to Britain to their home in Victoria.

There are four doctors in the Legislature for British Columbia, namely, H. E. Young, Provincial Secretary; G. A. B. Hall, J. H. King, and W. T. Kergin

Dr. J. D. McLean, of Edmonton, was married a few weeks ago in Nelson, B.C. He and his bride have gone for a trip to Australia. He will return about the end of June.

The British Columbia Government has instructed Dr. C. J. Fagan to have plans prepared for a sanatarium. Several small houses are to be erected for tubercular patients at Fish Lake, in the mountains south of the Kamloops.

Dr. Jeff, of Vancouver, has been appointed one of the police commissioners for that city. He has taken strong grounds against sending persons suffering with delirium tremens to the police station. The chief of police concurred that the hospital was the proper place for them.

FROM ABROAD.

The Alverenga prize will be awarded on July 4, 1907, provided an essay of sufficient merit is handed into the committee.

A Congress for First Aid to the Injured is to be called for the spring of 1908, at Frankfurt on the Maine, Germany.

Prof. Albert von Mosetig-Moorhof, the famous surgeon and introducer of iodoform, threw himself into the Danube recently while suffering from mental trouble and was drowned.

Some of the larger cities in Britain, notably Edinburgh and London, have made a fair commencement in the matter of medical inspection of the children attending the schools of these cities.

It is proposed to found a prize in memory of the late Dr. Paul Julius Mœbius, of Leipsig, who was so well known as a writer on neurological subjects. A committee has been formed to carry the scheme out.

Cases of the plague have appeared in considerable numbers in Sydney, Australia. All forms of the disease prevail, namely, bubonic, septicæmic, and peumonic.

The five hospitals of Sydney, Australia, last year treated 14,000 inpatients and 60,000 out-patients The total cost was £81,000, of which the Government contributed £51,000.

The Capetown Colonial Medical Council has shown a good deal of activity in the way of prosecuting irregular midwife and dentist practitioners.

Dr. O. R. Avison, formerly of Toronto, but who has been in Korea for the past fifteen years, has had the insignia of the Order of Tai Keuk conferred on him by the Emperor.

The Royal College of Surgeons of England and the Faculty of Physicians and Surgeons of Glasgow have sent congratulatory letters to Lord Lister on his attaining his eightieth birthday and the great services he has rendered surgery.

The University of Edinburgh has conferred the degree of LL.D., *honoris causa,* on Hon. Leander Starr Jameson, C.B., M.D., "Dr. Jim" of former times, and Premier of Cape Colony. The world, after all, loves a man of pluck. We congratulate Dr. Jameson.

The American Medical Association is to be congratulated upon the excellent work which its committee has been able to accomplish on the subject of proprietary medicines. Already much information has been collected and published.

Professor Adam Politzer will soon retire from the chair of otology in Vienna. Arrangements are being made to present him with a gold plaquette bearing his likeness. Silver and bronze copies are to be made for the contributors. The silver plaquette is £1 and the bronze 10/.

Upon a request from the Government to consider the question of a reduction in post-mortem fees, the current payment being two guineas, the unanimous feeling of the Natal Council was against giving approval to any lowering of the sum presently paid.

By a recent return there were 119,829 insane persons in England and Wales, 55,169 being males and 64,660 females, or a proportion of 1 in every 285 of the population. Of this number, 50,180 males and 59,097 females were of the poorer classes. Of the insane 22.7 per cent. of the males and 9.4 per cent. of the females owed their disease to alcoholic abuse.

Folia Urologica is one of the new publications that is being placed before the medical world. Professor James Israel, of Berlin, is editor-in-chief. He has many able associates. The contributions will be published in four languages. Dr. William N. Wishard, of Indianapolis, and Dr. Fred C. Valentine, of New York, are American editors. The publication is to be high class in every way and illustrated with colored plates.

The late Dr. Kerr, of London, began an inquiry into the mortality statistics for the purpose of showing the exaggerated temperance statements made of the mortality from the use of alcohol. As a result, he said, "I am compelled to admit that at least 120,000 of our population annually lose their lives from alcoholic excess. Forty thousand five hundred die from causes directly due to alcohol. The other 79,500 from conditions associated, or more or less directly due to spirits and beers."

The claim is put forth that Dr. Elizabeth Blackwell, now in her eighty-sixth year, was the first woman to graduate and enter upon the practice of medicine. There is reason to believe that there were women graduates during the middle ages. Maria Pittracina graduated in Florence in 1780, Zaffira Peretti graduated at Bologna in 1800, Christina Erxleben graduated at Halle in 1754, while Dr. Elizabeth Blackwell got her degree in New York in 1850.

At the Congress for the Protection of Children, held recently in Vienna, much interest was manifested in the subject of the national physical degeneration which was apparent. Two causes were advanced as the main ones for this: Child labor and alcohol. As a result of the discussions a bill will be presented to Parliament embodying some needed changes, looking towards the control of drink among the poorer classes, the regulation of child labor, and the care of certain children by the State.

New South Wales, Australia, is moving in the direction of medical inspection of the public schools, and the Minister of Public Instruction has approved of a plan whereby it may be carried out. The points to which attention are to be paid are: Defects of eyesight, defects of hearing, physical defects, infectious diseases, anthropometric survey, and school hygiene. Mr. R. E. Roth, F.R.C.S., is to have charge of the work, and Dr. Gertrude Halley for Tasmania.

Mr. Eric Armour, of Toronto, has received a letter telling of the success achieved by his brother, Dr. Donald Armour, F.R.C.S., in the competition for the Jacksonian prize, Dr. Armour having been awarded the prize for 1906 by the Royal College of Surgeons, England. In this competition, which is open, special importance is attached to personal observation and original work. It is the first time the prize has gone to a Canadian. Dr. Armour's essay was the "Diagnosis and treatment of those diseases and morbid growths of the vertebral column, spinal cord and canal, which are amenable to surgical operation."

Professor Rosenbach died on March 20th, of mediastinal tumor and an associated heart affection. Born on January 4, 1851, the son of a physician, he studied in Berlin and Breslau and was especially attached to Cohnheim and Traube. During the Franco-German war, in 1870, he served as a volunteer, took the M.D. degree in 1873, was assistant in the clinics of Jena under Leube and Nothnagel from 1874 to 1877, wrote a treatise on artificial valvular affections of the heart, his inaugural dissertation, in 1877, became professor of the University of Breslau, and took charge of the department of internal medicine of the Allerheiligen Hospital of Breslau in 1888. From Breslau he went to Berlin in 1896 and remained there until his death. He was an extensive writer on medical subjects, contributing to Nothnagel's system, and other leading works.

The Transvaal Medical Council is doing a good work. It is making an effort to keep the practice of medicine and dentistry on a high ethical standard. Among other recent actions the following resolution was passed: "That this Council having been notified of the terms of certain medical appointments held under the C.S.A.R. Sick Fund, whereby medical men are expected to carefully and conscientiously carry out all duties appertaining to their profession at a remuneration lower than that paid ordinarily to an artisan, beg to inform the Government that they consider such appointments prejudicial to the interests of the C.S.A.R. employees and an indignity to the medical profession; and further, this Council requests the Government to immediately appoint a Commission to inquire into and report upon the terms of all C.S.A.R. Sick Fund appointments with a view to their being readjusted on a fair and equitable basis."

A preliminary programme for the second international congress on school hygiene has been issued. The congress, of which the King is patron, is to be held at London University during the first week in August under the presidency of Sir Lauder Brunton. Delegates are to attend the congress from the United States, Austria, France, Canada, Denmark, Germany, Finland, Greece, Holland, Japan, Italy, South Africa, Sweden and Switzerland. On Sunday, August 4th, special services will be held, and on Bank Holiday there will be a reception of the delegates, followed by the President's inaugural address. Afterwards sectional meetings will be held for the discussion of various questions connected with the instruction of teachers and children in hygiene. Garden parties, entertainments and excursions are to be held later. It was determined at the first congress, held in Nuremburg in 1904, that the educational and hygienic movement going on in the British Empire should be acknowledged by holding the next meeting in London, and probably the congress of 1910 will be held in France.

OBITUARY.

DR. McQUEEN.

While Dr. McQueen, formerly of Edinburgh, was on the train, he made an effort to catch his hat, which was blown off. In the act he lost his balance, fell off the train and was suddenly killed. The medical men of Winnipeg took charge of the funeral. It is thought he was on his way West to locate in practice.

MASON A. SHEFFIELD, M.D.

St. John lost one of its oldest and most esteemed citizens in the death of Dr. Sheffield, which occurrd on 30th April, at his home in St. John. He had been quite busy throughout the day. In the evening he was seized with a severe pain in the chest, and, despite prompt medical assistance, soon passed away. He was born in 1837 in Cornwallis in Nova Scotia. He was educated at Wolfvill Academy, Dalhousie University, and Bellevue, New York. He served in the United States army as a surgeon during the Civil War. He practised for some years in Berwick, N.S., and in 1872 removed to St. John. He is survived by his widow. He took a prominent part in questions making for the welfare of the city, and was a member of the St. John Medical Society and the New Brunswick Medical Society.

JOHN SWEETLAND, M.D.

Ottawa lost one of its honored citizens on May 5th by the death of Dr. John Sweetland, Sheriff of the County of Carleton and of the Supreme Court of Canada. He had always been a man of robust health, but failed considerably within the past year, and about three months ago a general break-up developed. On Friday his condition became acute and he sank rapidly, death occurring at two o'clock in the morning. The members of his family in the city were at the bedside when the end came.

The death of Sheriff Sweetland removes a man of admirable character and disposition, an able and esteemed family physician of the olden days, a conscientious public official and a citizen ever ready to lend his time and influence to the city's interest and the welfare of many deserving institutions within it.

The late Dr. Sweetland was born in Kingston in 1835, and graduated from Queen's in 1858. He practised for some years at Pakenham, Ont., but moved to Ottawa in 1867. He succeeded the late W. F. Powell as Sheriff of Carleton in 1880. He occupied several public and semi-public positions, and was one of the founders of the Ottawa Ladies' College. He was a Mason and a member of several other societies.

BOOK REVIEWS.

OSLER'S MODERN MEDICINE.

Modern Medicine. Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University, England; formerly Professor of Medicine in Johns Hopkins University, Baltimore; in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal. Assisted by Thomas McCrae, M.D., Associate Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. In seven octavo volumes of about 1,000 pages each; illustrated. Volume I just ready. Price per volume, cloth, $6.00 net; leather, $7.00 net; half morocco, $7.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1907-1908. D. T. McAinsh & Co., Toronto, Canadian Agents.

Dr. Osler is so well known that he needs no introduction. It goes without saying that much will be expected in any serious attempt he would put forth to give the medical profession a standard work on the practice of medicine. For some time it has been known that he had such an undertaking in hand. The first volume has come to hand. He puts forth in his introductory article the plea that the time has come for the appearance of such a work, as the means whereby our medical knowledge may be brought up to date.

The prospectus of the entire work, seven volumes in all, of about 1,000 pages each, shows that the very best care has been taken in the selection of the contributors, the most of whom are from the United States and Canada. This is no doubt a wise arrangement, as the sale will most likely be greatest on this side of the water.

The first volume is a very fine book. The well-known publishers, the Lea Brothers, have certainly done all that could be expected of them to make the work attractive from every standpoint of the book-making art. When we say this we say a great deal, as the Messrs. Lea Brothers are known wherever medical books are read.

Dr. Osler opens the volume with an interesting chapter on the "Evolution of Medicine." This portion of the work is very ably written, after the author's best style, and is full of excellent material.

Dr. J. G. Adami, of Montreal, contributes the second chapter on "Heredity and Predisposition." This portion of the book will bear very careful study, as he advances some very positive statements upon this much debated subject. Among other things he states: "It is impossible for there to be inheritance proper of infectious diseases. There is no such thing as inherited smallpox, inherited tuberculosis, or hereditary syphilis. This, however, is not the same as stating that no inheritance of any order can occur in connection with specific disease."

The subject of "Auto-Intoxications" is taken up by Dr. Alonzo E. Taylor, of San Francisco. He handles the subject in a very broad manner, and his suggestions will prove of the utmost value. On the question of gastro-intestinal auto-intoxication much useful information is imparted.

"Malarial Fevers," by Dr. Charles F. Craig, is ably written up. The latest views on etiology, pathology and therapeutics are to be found in the pages devoted to this section of the volume. He contends that a fever which is not cured by the proper administration of quinien is not of malarial origin.

Other thoroughly practical clinical articles are those by Dr. Thomas B. Futcher, of Johns Hopkins, on "Diabetes and Gout;" by Dr. J. M. Anders on "Obesity;" and by Dr. George F. Still, of London, on "Rickets." The scientific physician will regard the profoundly scholarly article on "Metabolism, Normal and in Disease," by Chittenden, of Yale, as of fundamental value. There are excellent articles, also, by Drs. Alfred Gordon and David L. Edsall, of Philadelphia; Alexander Lambert, of New York; F. G. Novy, of Ann Arbor; James H. Wright, of Boston, and others.

To be possessed of these seven volumes—if the remaining six shall prove equal to the first—would put within the owner's reach the best that is extant on the many subjects of internal medicine. The first volume is a fine tribute to the attainments of the various contributors and especially to the distinguished editor.

DR. ADAMI'S WORK ON INFLAMMATION.

An Introduction to the Study of Pathology, being the Reprint (revised and enlarged) of an Article in Professor Allbutt's System of Medicine. By J. George Adami, M.A., M.D., F.R.S., sometime Fellow of Jesus College, Cambridge, Professor of Pathology, McGill University, Montreal. The MacMillan Company of Canada, Limited, 27 Richmond Street, W., Toronto. Price, $1.50.

Those who know the nature of Professor Adami's writings will expect something good when he sets himself the task of seriously giving his matured views upon any subject in pathology. A careful study of this book will not cause disappointment. In his preface he states that "a knowledge of the inflammatory process is the foundation of all pathology." He studies the subject from the standpoint "that inflammation is the local reaction to injury." Disease causes injury and there is the reaction of the organism to such injury. "The study of the inflammatory process is the natural starting point for a right understanding of that science (pathology) and what it can teach us." Dr. Adami brings his book well up to date by full statements on the work of Sir A. E. Wright regarding opsonins and that of Professor Bier on the treatment of inflammation. The

first part of the book deals with "A General Survey of the Process of Inflammation," the second part takes up "The Factors in the Inflammatory Process," and the third part concludes the study with "General Considerations." Dr. Adami appears to have covered the subject very fully. We regard the second part of the book, in which he discusses the share taken in the inflammatory process by leucocytes, the exudate, the blood vessels, the nervous system, the cells of the tissues, and the temperature, as being particularly clear and able. We can recommend this book with a degree of confidence that rarely falls to the lot of the reviewer. He leads the reader from the response of the protozoa to injury, through resisting power of the metazoa, up to that of the vertebrata. From the non-vascular areas to the vascular areas one is led by steps that are clear and sure. The author's summary of the facts derived from the studies covered in the first part of the book is a masterpiece. The principles of treatment are well stated. The steps that shall be taken in the treatment of inflammation must depend upon whether the reaction of the organism is adequate, inadequate or excessive. Under his concluding remarks on "Adaptation," the author states very clearly his views on inflammation as a reaction making for the cure of disease. We congratulate Professor Adami on the appearance of this revised edition of his studies on inflammation. The publishers have given the profession a very handsome and attractive book. The illustrations, typography, paper and binding are of the very best. This may be called a foundation book. It lays down the principles of pathology in such a manner as to rival their teachings by their attractiveness. Such a work as this should be in the hands of every practitioner. It would do much to make clear many things that are often obscure, and to give a new interest to the whole study of medical literature.

SKIN DISEASES.

A Hand Book of Skin Diseases, by Arthur Whitfield, M.D. (Lond.), F.R.C.P., Professor of Dermatology at King's College, London; Physician to the Skin Departments, King's College and the Great Northern Central Hospitals. London: Edward Arnold, 41 and 43 Maddox Street, Bond Street, W., 1907. Price 8s. 6d.

This is an excellent little volume, if good workmanship, illustrations and matter can make such a book. The author is to be congratulated on the success of his efforts to give the profession so good a guide on the rather difficult subject of dermatology. We have reviewed this book with care and feel every confidence in recommending it. The price and size make it all the more attractive.

DR. BLAIR'S THERAPEUTICS.

A Practician's Hand-Book of Materia Medica and Therapeutics, based upon established physiologic actions and the indications in small doses. By Thomas S. Blair, M.D. Over 250 pages, bound in limp library cloth. Price, $2.00 net. Published by The Medical Journal, 4105 Walnut street, Philadelphia, Pa.

Many physicians, being above sectarian prejudice, would honestly use that which is most useful in the materia medica of each different school if it could be clearly pointed out to them and separated from that which is of doubtful value. There is no doubt that each sect has something of value in the agencies it employs in the treatment of disease, or its practice would soon fail. Around this nucleus they have accumulated much material that has little scientific value. It is the duty, as it should be the pleasure, of the physician who wants to do the best he can for his patients to study each school of therapeutics with a view to adopting anything in it that may be better than his own. But there is very much ground to go over, and much of it is stated in peculiar, exclusive terms, not the common language of the profession at large.

Dr. Blair, a regular physician of very high standing in his profession, has made a close study of the materia medica and therapeutics of each of the sectarian schools, has for many years tested their methods and remedies in his extensive practice, and has carefully noted in each one that which every practising physician should know and be able to adopt in his practice.

The methods of obtaining the medicinal qualities of the various plant drugs are given, showing that our regular manufacturing pharmacists prepare some of them in a reliable manner, while the Eclectic and Botanic manufacturers prepare others better, and still others are better prepared by the homœopathic manufacturers. These points of excellence in certain drugs are usually the ones that distinguish the particular school and give it whatever success in treatment its practicians achieve. In discussing these certain preparations the reasons why the sectarian brands are stronger, purer or more uniform than those found in other shops are clearly pointed out.

The subject of dosage is most carefully regarded. Many drugs have an apparently different action in the large and the small dose. These are all differentiated, and where small doses are best they are recommended. Physiologic effects of the large dose, medium dose and small dose are given for each drug, and therapeutic deductions are drawn therefrom. The homœopathic infinitesimal dosage is discussed and its fallacy shown, although many homœopathic remedies are very efficient when used in the proper appreciable doses—and when effective they are always used that way. This book does not stir up prejudice, but clears up many of

the difficulties in the way of a truly rational and, above all, a *highly successful* practice of therapeutics. The philosophy of therapeutics that underlies the discussion of every drug will make the reader a better judge of remedies, and what should be expected of them. The confident, hopeful spirit, which runs like a thread of bright color all through the book, based upon the author's successful experience, will encourage the reader with a renewed promise of better results in his daily work. This book will become your desk companion for frequent consultation.

TUBERCULOSIS.

As a Disease of the Masses and how to Combat it. By S. A. Knopf, M.D., New York. Fourth issue revised and illustrated of his Prize Essay. New York: Fred. P. Flori, 514 E. 82nd St. For sale Charities and the Commons, 105 E. 22nd St., New York.

This pamphlet of 104 pages should have a wide circulation. In these few pages the author tells what all should know. We can most cordially recommend these pages to our readers. They will bear very careful study. The advice Dr. Knopf gives is of the sanest kind. There is the absence of all extreme expressions, but therein lies the strength of his position.

THE GREAT AMERICAN FRAUD.

Articles on the Nostrum Evil and Quacks, in two series, reprinted from Collier's Weekly. By Samuel Hopkins Adams. Copyright 1905 and 1906 by P. F. Collier and Son. American Medical Association, 103 Dearborn Avenue, Chicago.

The articles which form this pamphlet of 146 pages have appeared at different times in *Collier's Weekly*. The author deals with his subject in a bold and thoroughgoing manner. We could wish that these exposures could have as wide a circulation as they merit. The revelations made in them are of a most astonishing character. It is time the medical profession took an active part in the condemnation of the nostrum evil.

THE ESSENTIALS OF HISTOLOGY, DESCRIPTIVE AND PRACTICAL.

For the use of Students. By Edward A. Schäfer, F.R.S., Professor of Physiology in University College, London. New (7th) edition, revised and enlarged. Octavo, 507 pages, with 552 illustrations. Cloth, $3.50 net. Lea Brothers & Co., Philadelphia and New York, 1907.

A book which achieves seven editions with constantly increasing growth in itself and broadening acceptance on the part of its public, possesses indubitable and proved merit. Especially is this true in so

highly competitive a department of medical literature as Histology. The survival of the fittest is as true of books as of animals, and conversely the proof of fitness is survival. The reasons for the favor merited by Professor Schäfer's Essentials of Histology are evident. It gives a well arranged course covering the minute structure of every human tissue, and it does this in such clear language and with such a wealth of effective engravings that the difficulties of both student and teacher are minimized. It is perhaps the most richly illustrated book in the field. A feature of special value new in his edition is the abundant use of colors. This thin volume is really a fairly large and full text book, for it contains 500 pages, but it is printed on exceptionally fine paper for portability. It is an authoritative and favorite text book, again revised to the latest date, and attractively presented in every detail. We can, therefore, with the utmost degree of confidence recommend this book to all who wish to acquire a thorough knowledge of the minute anatomy of the human body; and this should mean the entire medical profession, for every doctor should understand the fine structure of the organs.

MISCELLANEOUS.

LAW ON CHILD LABOR.

The findings of the Special Committee of the Legislature which enquired into the subject of child labor in the Province were laid on the table in the House, 27th March, by Hon. Mr. Monteith, the chairman of the committee. The investigation, it will be remembered, was ordered by the Government after a debate on a resolution presented by Mr. Preston (Brant). During its course evidence was heard from factory inspectors, police officers, educational authorities, medical men, and employers, and the report is the result. After the Minister of Agriculture had presented the report, Mr. Preston drew attention to the lax enforcement of the Truancy Act, for which, however, he did not, he said, hold the Education Department responsible. Out of an enrolment of 397,000 pupils, the attendance at the schools averaged but 58 per cent. At the Consolidated school at Guelph the attendance was 90 per cent.

The following are the committee's recommendations:—

Uniform age of 14, age for shops, factories, and truancy Acts.

Consolidation of Factories and Shops Acts, and extension of their operation to laundries and all other places in which work for wages is done.

No child to be employed who does not possess certificate from inspector or principal of school, or some officer appointed for the purpose by the School Board, that he is in sound physical condition, and able to read and write. Attendance at night school may be substituted for attendance at day school of applicant of legal age.

The season during which this concession might be allowed to be from June 1 to Oct. 1, instead of from June 1 to Nov. 1.

Legislation to secure more complete returns of births to aid in tracing ages.

An Order-in-Council to be passed forbidding dangerous occupations to children.

Running of elevators and delivery wagons by boys under 16 to be forbidden.

Children under 18 not to be employed in breweries or bottling works, nor under 16 years where liquor is sold.

Attention to be given to the mining laws to see that the conditions respecting the employment of children are only those that there is necessity for, and that proper provision is made for inspection.

A provincial law should be passed governing street trades, such as newspaper vending, etc. Provision should be made for newsboys and others working after school hours not later than 7 p.m., and providing that boys who perform such work as a calling should come under the general regulation as to age, namely, 14 years for day work, and 16 years for night work.

The attendance of children under 14 years of age at theatrical performances should be forbidden unless they are accompanied by parents or guardians.

Consideration by the Government of the proposal that boys over 14 and under 16 should be required to be at school, and, if not, that they should be engaged in some industry.

Attention should be given to the question of compensation of parents of possible breadwinners who are under school age, and are not allowed to work. The experience of many cities in the United States where scholarships are given to children by way of relief to dependents is cited to show that the number of cases of actual need is very small. Some such system should be adopted here.

Permits to work should be sparingly given, and only by inspectors of schools after careful investigation.

Provisions for inspection of hotels, concert halls, etc., with respect to employment of child labor.

Increase of staff of inspectors.

Municipalities should be compelled to enforce truancy Acts, or else the Government should.

No child under 16 to be employed for more than 60 hours a week or 11 hours a day, or between 6.30 p.m. and 6.30 a.m.

Children under 12 years of age should be prohibited from working in canning factories. Children under 14 should not be employed at night.

CANADIAN MEDICAL EXCHANGE.

Physicians in search of a field for practice may not know that they can find out from the Canadian Medical Exchange, conducted by Dr. Hamill, 75 Yonge street, Toronto, practically every medical practice for sale in the Dominion, as well as many places where there is no doctor and the community needs one. This information is given prospective medical buyers free of any charge whatever, the only condition being that buyers must agree to hold sacredly confidential, and for their own use only, all information received from the above office. Medical vendors and vendees can secure the goal desired by having their names registered with Dr. Hamill better than by all other methods combined that they might adopt, as practically everything in the market, having merit, is in his office. It is a great convenience to buyers and sellers to thus have one central depot to supply their needs.

THE SIXTEENTH INTERNATIONAL MEDICAL CONGRESS.

The fifteenth International Medical Congress, held in Lisbon, chose Budapest, the capital and residence of Hungary, for the place of the next assembly, and the preliminaries are already in process. His Imperial Majesty, the King, has graciously taken upon himself the patronage of the ensuing congress. The state and town have each contributed 100,000 crowns to defray the expenses.

The committee for the organization, execution, disbursements and reception, as also for the sections, is already formed and the rules are drawn up.

There are 21 sections, each branch of science having a section assigned to it.

The date of the opening is fixed for the 29th August, 1909, and the sessions will be continued till the 4th September.

There is every reason to presume that the congress will be well attended Hitherto they have shown an atendance of from 3,000 to 8,000 participants. Judging from the geographical situation of Budapest, at least from 4,000 to 5,000 participants may safely be reckoned upon.

The managers, of course, attach the utmost importance to the scientific activity of the congress, and every effort is being made to secure the most prominent representatives of medical science.

MEDICAL PREPARATIONS, ETC.

POWDER BURN OF FACE.

By E. KUDER, M.D., Coffeyville, Kan.

About a year ago I was called in a hurry to relieve the awful suffering of Carl Rucker, of this city, 10 years old, who, when playing with other boys, exploded about two ounces of coarse black shooting powder in a little earth mount, and not being quick enough to turn away got the most of the discharge into his face; even the conjunctivæ of both eyes were blackened, and from the burn and subsequent inflammation shut light; one of the ears also got burned very badly.

To extract the powder from the skin I have in years gone by applied a thick layer of castile soap made into a sort of dough, and as I had to deal here with the inflammation and pain beside, I scraped a cake of shaving soap, mixed it thoroughly with antiphlogistine, and applied it about one half inch thick all over the face and ear, leaving a hole for the eyes, nostrils and mouth. About one half hour later the little patient, a very sensible child, rested very comfortable, free from pain, and slept a few hours soundly. About 24 hours later I removed the whole mask from the boy's face, and to my great delight and surprise the application had drawn out every kernel of the powder. The inflammation had been greatly reduced, pain was all gone, and the face appeared almost natural again with the exception of the sclera of both eyes, which I treated with a solution of cocaine adrenalin.

Another remarkable circumstance is the fact that the boy at the same time got entirely rid of his freckles, not a trace of the latter could be detected.

For about a week the face got anointed with cold cream twice daily, and being well, was discharged as cured.

A VALUABLE REMEDY FOR THE TREATMENT OF CONSTIPATION.

C. F. Crutchlow, M.D., C.M., 763 Wellington street, Montreal, P.Q., writes:—

I am pleased to state that after a very thorough trial in my practice I consider Cascarin, manufactured by Messrs. Parke, Davis & Co., one of the handiest and most reliable remedies for habitual constipation that I have yet found. The product is put up in the form of tablets which are readily taken by patients, and at the same time, produce desired results.

A SHEET ANCHOR IN PNEUMONIA.

S. U. Umstot, M.D., of Hagerstown, Md., writes: Two years ago I began to use Antiphlogistine in the treatment of pneumonia, and it has proved my "sheet anchor" ever since. My custom is to make daily applications, and by using it in this way I am able to hold the disease in check. Antiphlogistine reduces the inflammation without reducing the patients' strength, and owing to its many virtues, is strongly to be recommended as an adjunct in the treatment of pneumonia.

A few cases follow:—

Mrs. G.—Was called January 28th, 1905. An examination proved lobar pneumonia, in the upper lobe of the right lung. I applied hot Antiphlogistine and the cotton jacket. Next day the patient was doing well. I renewed the dropping daily for four days, when it was discontinued, as the necessity for its use had passed away. The recovery was uneventful.

Mrs. K.—Was taken ill April 12th, 1905, with his second attack of double pneumonia. I at once applied Antiphlogistine and a cotton jacket, and renewed the dressing daily. In two weeks he was sitting up, and he made an uneventful recovery.

Mrs. D.—A woman with a tubercular diathesis, was stricken with pneumonia of the right lung, December 4th, 1905. Antiphlogistine and the cotton jacket were used a in the preceding cases. I discontinued my calls in twelve days, after a complete cure.

Mrs. S.—Was called February 22nd, 1906, and found double lobar pneumonia. Applied Antiphlogistine, hot, then daily until the eighth day, when the crisis was passed. Antiphlogistine was of inestimable assistance in this case.

Mr. A. 45 years old. I first saw the case April 22nd, 1906, found a double lobar pneumonia with pleurisy of the left pleura. I at once applied Antiphlogistine as hot as could be borne, and used it daily for twelve days. On the sixth day the evening temperature registered 105.8°. The temperature dropped by lysis and he made a good, although slow, recovery.

SICK-ROOM ISOLATION.

In contagious cass practical isolation of the sick-room is obtained by suspending two sheets kept saturated with Platt's Chlorides over the entrance—one inside and one outside. Each sheet should be tacked along the top and one side of the doorway, and should be frequently sprinkled by means of a whisk-broom with a mixture of one part Platt's Chlorides and four parts water.