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No. 9

Original Communications.

THE USE OF RADIUM IN SKIN DISEASE.

BY DR. LOUIS WICKHAM.

Physician to Saint Lazare, and ex-chief of the clinic at the St. Louis Hospital, Paris. (Work done in the Biological Laboratory for the study of Radium.)

I. A year ago, as a result of preliminary research work which had been entrusted to me a year and a half before, a centre for the study of radium was made at Paris. Because of the results I had obtained it appeared interesting to group closely together the different scientific departments in order to develop the study of radium. So it came about that in this same centre of study were united a physical laboratory, a chemical laboratory, a laboratory of physiology and of experimental medicine, and two departments devoted to the application of radium—the one for internal pathology, the other for external pathology.

It is to Dr. Dominici, whose work of ten years ago on "the cell" has caused him to be well known, that the laboratory of physiology and of experimental medicine and the department of internal pathology have been entrusted. Already he has succeeded, in addition to other work, in establishing the action of radium on "arthritis blennorrhœa," and his works have been the subject of a communication with the Academy of Medicine, under the auspices of Professor Robin.

But I shall not proceed on this subject, desiring to devote this article to the question of cutaneous radio-therapeutics, with which I am more at home.

II. The radium which I have used comes from the manufactory at Nogent-sur-Marne. In this manufactory, the radium is ex-

tracted from several minerals: From pechblende, from St. Joachimsthal, in Bohemia; from carnotite (vandate d'urane), from Portugal and Utah (U.S.A.); from thorianite, and finally from two minerals found in France—from autunite, from Saint Symphorien, and from Pyromorphite, from Issy L'Evêque (Saône-et-Loire.)

The radium obtained from all these minerals by successive chemical decompositions appears in the form of salts, either sulfate or carbonate of radiferous barium (insoluble salts), or bromide or chloride of radiferous barium (soluble salts).

The salts of radium and their radiation are controlled in the manufactory of Nogent by the electroscopes and electrometers constructed especially for that purpose under the direction of M. Daune, assistant in the physical laboratory of Madame Curie. The soluble salts have resulted in the making of radiferous medicines and radiferous waters, by their incorporation with medicinal substances and with water. Thus I have been able to attempt the study of injections of radiferous water into the tissues of the "lupus vulgaris" and of the "lupus erythematosus," and injections of radiferous¹ gray oil in syphilis. These studies were pursued during my attendance at the Infirmary-Hospital at Saint Lazare and at the "Biological Laboratory for the Study of Radium."

This manner of using radium is very interesting. It is true that by this method only the smallest quantities of radium may be used, but thus are used in their fullest capacity, "emanation,"² and the rays A, which have certainly, as I have made certain by personal experiments³, a bactericide power. Not being able to enlarge on the subject in this article, I shall not expatiate here on this very interesting side of radio-therapeutics, but I come to the customary manner of applying radium.

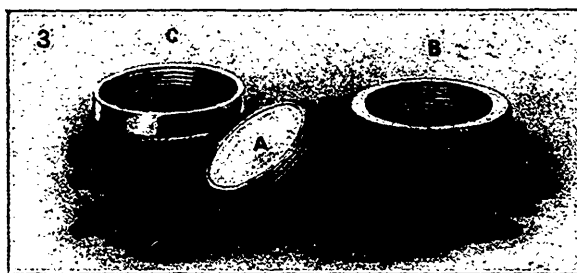
III. The radium used in direct application for diseases of the

¹ The word "radiferous" shows that the natural salt of the radium is contained in the water and the oil, in opposition to the expressions, "water with radio-activity" or "substances with radio-activity," which will be illustrated farther on.

² Radium in dissolution in chemical substances is in a free state. In this state it emits, in addition to the radiation of which we shall speak further on, a gas called "emanation." This emanation imparts to all the bodies with which it is placed in contact, including the cells of our tissues, the quality of transmitting in their turn the rays X, B and J. It gives to them, for a limited time, radio-active power, and it is thus that in using the substances with radio-activity (radio-active quinine and radio-active water), you can economize by transmitting the power of radium without transmitting natural radium.

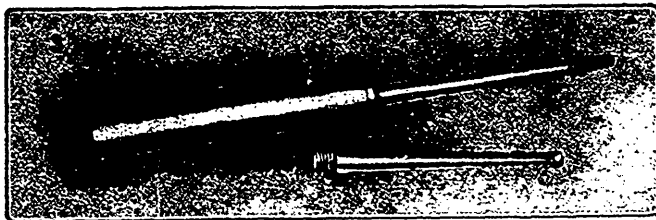
³ Note on the use of radium in therapeutics, "Annals de Dermatologie," edited by Masson, October, 1906.

skin is disseminated in a strong, endurable varnish that is poured over a sheet of metal to which has been given the shape and dimensions desired. Generally the quantity of radium distributed on an apparatus is in relation to the dimensions of this apparatus. The form of the apparatus is varied. It may be flat, round or square, spherical or cylindrical, and it is shaped in form according to the surfaces to be treated. So work may be done at the bottom of cavities (like the ears, the nose, the throat, the vagina), in the fistulae, the tubes, the passages, quite as well as on smooth surfaces. The material which we use, varied both as to shape and the intensity of the radium, allows therefore a great many different kinds of application. Here are some of the forms of apparatus which I have used most frequently:



Apparatus flat and round. The disc A has been unscrewed from the two other pieces, B and C, which contained it. It is on the surface A that the radium is placed first, and then the varnish, the fixing agent, is poured on. The apparatus is intended for use on smooth surfaces.¹

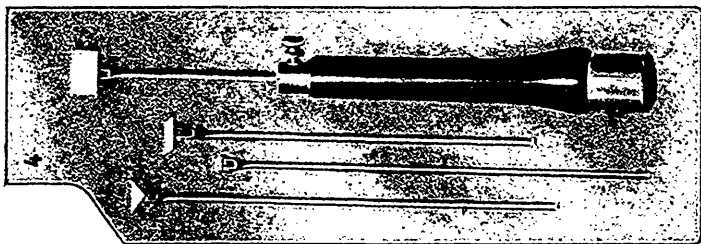
The tube which may be seen below the surface A is used to receive a cord to attach the instrument immovably on the part to be treated. It is used also for the purpose of inserting a handle.



Apparatus square, flat, mounted on a stem or rod, and intended to be applied to the bottom of cavities like the mouth and the vagina.

Here are two appliances. The one is cylindrical and is intended to carry radium in the passages, the fistulae and the tubes. For instance, I have used it in treating epithelioma of the auricular tube. The other apparatus, terminated by a spherical ball, is used for working in certain small cavities, as, for example, the sebaceous cyst affected with chronic or obstinate inflammation. The keeping of these appliances in order is rendered very easy because of the great resisting power of the varnish. They may be cleaned by washing them with soap and water, but I advise especially for the sterilization of the apparatus steaming with formalin.

This steam does not change the varnish, and answers every requirement for disinfection. (1) When the dimensions of the apparatus exceed the dimensions of the lesions to be treated, I cut out in a sheet of pliable lead, a hole of the same size as the lesions. I first apply the lead, then the apparatus. Thus the



healthy peripheric tissues are protected. When I use a very powerful apparatus I line the lead itself, without stopping up the hole, with a very thin sheet of aluminum. The reason of this is to stop the secondary rays described by Sagnac, which are produced under the lead, and run the risk of inflaming the shallow cells of the healthy tissues.

IV. Now this is the manner in which I use these appliances. When I wish to get down to the tissues (as in the case of "nodules du lupus," for example) and do not wish to change the shallow layers of the epidermis any more than I can help, I place between the apparatus and the skin a very thin leaf of aluminum (1-200 millimeters), which stops the easily absorbed rays A. This manner of working demands some explanation, as well as the exact knowledge of the composition of the irradiation which leaves the apparatus and enters in to the diseases tissues.

I am going to take as an example one of the appliances described above. one of those which I use quite frequently. It is round and flat, is six centimeters in diameter, and contains twenty

centigrams of radium of 500,000 original activity¹. It is important to know which part of this activity is retained by the varnish—that is to say, to know what the activity and the composition of the exterior irradiation in the varnish of this appliance are—irradiation which penetrates into the tissues. But all the appliances used have their exterior irradiation analyzed by M. Boudoin, the assistant in the physical laboratory. The activity of the exterior irradiation of the apparatus which I am taking as an example is between 290,000 and 300,000². The irradiation allows:

70 per cent. of rays A (Alpha).
75 to 80 per cent. of rays B (Beta).
10 to 15 per cent. of rays G (Gamma).

As may be seen, there is no “emanation”—it crosses no body. The rays A are least numerous, for they allow themselves to be easily absorbed by the varnish; the rays G are less numerous even in the original composition of the radiation than in radium in the free state, although they nearly all pass. As the rays A are easily absorbed, they act especially on the surface of the tissues; the rays B, less easily absorbed, act more deeply, and the rays G deeper still.

Once anyone possesses this knowledge and wishes to use this apparatus on diseased tissue from the first layers of the cells right to the deeper ones, he should use it directly, without any interposition. If, on the other hand, he wishes to treat deeper tissues without injuring the surface—that is to say, without using the rays A, which act only on the surface—he places between the skin and the apparatus the leaf of aluminum of which I spoke, and the rays A are then all absorbed and the rays B and G alone pass. If he does not wish to work except with the most pene-

¹ Activity 500,000 means that this activity is 500,000 times greater than the activity of an equal quantity of pure uranite. Uranite is, in fact, taken as the unit of measurement. As pure radium has 2,000,000 of activity, it may be seen that the radium placed on the apparatus which I am dealing with is a quarter of the pure radium.

² The rays A and B are composed of substantial atoms endowed with an extremely small body (these are the ions charged with positive electricity for the A and negative for the B), and animated by an extreme rapidity, that of light. They cross opaque bodies by sliding into the interatomic spaces of the body. The rays G are the expression of a vibration of the ether. This motion of the ether is determined by the disintegration of the radium in atoms A and B. These rays G are of the same kind as the rays A of the ampulla of Crookes, as the light which comes to us from the stars, as the transmission by Herziennes waves of wireless telegraphy, etc. These three groups of rays, A, B and G, being animated by great momentum, give forth energy to the bodies that they strike, and it is this energy, communicated, which modifies the cells and cures them or destroys them, according to the force used.

trating rays, a leaf of aluminum should be chosen thick enough to stop the majority of B and let all the G pass. With these different combinations of apparatus, which vary not only in form and dimensions, but also according to the quantity of radium that they contain, and to the activity of the radium incorporated in the varnish, with the method of interposition which I have described, and finally by using applications of long or short duration, a very great variety of action may be obtained. Also therapeutics is able to graduate its action from the simple modification of the morbid cells without showing a trace of inflammatory reaction (as is the case in shallow lesions like chronic eczema or obstinate psoriasis), even to the cure of deeper troubles, in a certain sense surgical (as is the case in cancers of the skin or tubercular ulcerations.)

V. With these procedures I have treated a number of cutaneous lesions—localized chronic lichenoid eczema, localized rebellious chronic psoriasis, localized lichen vuber planus (en plaques), keloids, varicose ulcers, pigmentary naevi, vascular naevi, erectile angiomas, epitheliomata of various characters, extensive and vegetating rodent ulcers, papillomata, syphilis ulcerative or papular (difficult to treat), cutaneous tuberculosis, lupus erythematoses, lupus vulgaris, scrofuloderma, and tuberculosis verrucosa.

The results which I have obtained are in many cases favorable, but three groups of lesions detach themselves which especially benefit from the radium treatment. These are epitheliomata, certain vascular naevi (wine-stains), and obstinate pruriginous eczemas (nevirodermites).

VI. Another very important point, for it takes from radiotherapeutics the empiric character that it was able to retain up till now, is that this treatment may be mixed. The doctor may be given sufficient information to enable him to reproduce the results spoken of. Here is, for example, summed up, a passage taken from a work which is to appear shortly, that shows the correct proportion for epithelioma:

“For an epithelial tumour (ulcus rodens), situated, we will say, on the ala of the nose, having the dimensions of a ten-cent piece—that is to say, occupying a circular surface seventeen millimeters in diameter, the cure is obtained by applying directly, without intervention, eight days in succession, for an hour each day, an appliance covering the whole surface and giving as exterior irradiation the number 62,000 of activity, and comprising 2 per cent. rays A, 84 per cent. rays B, and 14 per cent. rays G. Of course, the crusts which cover the epithelioma ought to be taken away before the applications, and the ulcer ought to be

carefully staunched. So, therefore, a doctor possessing the type of external irradiation of which I have just spoken, will be able to produce the cure spoken of. If he does not possess this exact irradiation, he can come near it by increasing the length of the application several hours or lessening it, according as he possesses a weaker or stronger irradiation. To obtain an irradiation approaching the type which I have given, it is sufficient to possess an apparatus round, flat, two centimeters in diameter, and containing 0.02 of radium of initial activity 500,000. With radium of 100,000 activity, applications five to seven times longer in length would be necessary.

VII. How do the tissues behave under the influence of these irradiations? This is what happens in the course of treatment:

First of all, the crust which existed and the bleeding characteristic of epithelioma, do not appear again after the second or third day, that is to say, after the second or third application. Then about the seventh or tenth day you see the inside of the ulcer fill up, taking on a flesh color of good quality. About the eighth or tenth day after the cessation of the applications the destructive reaction sought after takes place. The lesion becomes hollow again; it suppurates, and is covered again by a crust. The lesion in this ulcerous condition is very different from the epitheliomatous ulcer. The suppuration in it is more abundant; the crust is slightly yellowish, as if impetiginous. If you draw it back you notice that the underlying tissues do not bleed.

Gradually this hollow therapeutic ulcer dries up and fills up anew—the work of healing evolving itself. Finally between 35 and 45 days after the cessation of the applications the scab falls off positively and lets the completed scar be seen. This becomes modified in the month which follows, and ends by being really esthetic, flexible, fine, smooth, on a level with the skin, and slightly white. Such is the process of evolution left to itself, but you can gain about ten days by local attentions. When the suppuration is abundant, the crust is raised and washed with Alibour's solution of three sulphates.

You can clean, wash, pulverize each day, but I do not advise investigation even to avoid scabby reappearances. After having once or twice proceeded with the cleaning mentioned, I allow each scab to form again. This forms a screen, takes the place of dressing, and does away with any pain, while the fresh wound is at times painful and necessitates careful dressing. Of course this is only an example taken as a type, and according to it a doctor may be guided in other cases of epithelioma and other lesions.

SUPPURATIVE MASTOIDITIS—ITS DIAGNOSIS AND TREATMENT.*

BY DR. GILBERT ROYCE, TORONTO.

The relation that the mastoid bone bears to the very important structures within the cranium renders an intimate knowledge of its condition of extreme importance to the surgeon; for, should it become the seat of a suppurative process, he is confronted with the possibility of a serious complication that demands from him an accurate and timely diagnosis.

In many instances this is a comparatively simple matter, but cases occur now and again which puzzle even the most expert observer. This is due chiefly to the following facts:

1. Variation in the structure of the bone.
2. Variation in the virulence of the germ.
3. Variation in the symptoms, both objective and subjective, even when the pathological conditions are similar.

In the vast majority of cases, mastoiditis occurs secondarily to a purulent otitis media. Dench says that he believes 99 per cent. occur in this way. Many now claim that infective suppuration of the mastoid is a constant accompaniment of every purulent inflammation of the tympanum, and that it is only when the mastoid symptoms become predominant that our attention is called to it.

In forming our diagnosis we should first obtain an accurate history, for the longer the duration of the symptoms, the more likely we are to have suppuration in the bone. The fact, too, of the attack being a second one also points to bone invasion, while, if the attack be an acute one on a chronic purulent otitis media, involvement of the bone is almost invariably the case.

The subjective symptoms, though valuable as aids, are not characteristic. Pain is probably the most constant one, and is complained of as radiating from the affected mastoid over the side of the head. It is dull and frequently throbbing in character. It must be distinguished from otalgia, hysteria, and otitis externa. Inability to sleep is an important symptom and is present in the majority of cases. A feeling of heat over the mastoid is complained of by many. The body temperature, though usually raised, may be perfectly normal. A *persistent* elevation of temperature, however, points to bone invasion.

* Read at meeting of Ontario Medical Association.

In all cases there is a certain amount of prostration and indisposition to exertion. Such symptoms as chills, vertigo, nausea, vomiting and sweating point to probable intracranial complications. The general appearance of the patient is not characteristic, and gives us no hint, except that, in cases of long standing, a typhoid or septic aspect is sometimes seen.

The appearance of the mastoid region may be perfectly normal. Swelling and edema over the bone point to mastoid disease, especially when it occurs some time after the onset. It may, however, be due to swollen glands, otitis externa, or to periauricular phlegmon as the result of an invaded cartilage. The swelling caused by adenitis here is never extensive, is superficial and not especially painful. That of otitis externa is superficial and usually obliterates the post auricular furrow; besides there is generally marked swelling in front of the tragus, as the lymphatics from the external ear empty into these parts. Movement of the auricle, pressure in the canal with the finger tip, or pressure in front of the tragus is very painful in furuncular conditions.

The subperiosteal abscess of mastoiditis, on the other hand, is deeply situated, and does not as a rule obliterate the post auricular furrow, the auricle being pushed out as a whole from the head.

Pain on deep pressure over the mastoid bone is one of the most constant and important signs of mastoiditis. It is beginning of an attack it is usually most severe over the area of the antrum and from here radiates into the tip. It may be general over the whole bone and posterior to it, or extend down into the neck.

In eliciting this sign, care must be taken to compare both sides, a good plan being to place a hand on each mastoid and to press alternately, meanwhile watching the face of the patient for signs of distress. In nervous patients and children it is well to divert their attention in some manner during the examination.

Pain on pressure over the antrum occurs frequently in cases of middle ear trouble, for there is no doubt that the mastoid antrum is infected in the vast majority of middle ear suppurations. The pain of mastoiditis, is not only found here, but is often most severe in the tip of the bone, and radiates to the parts below and posterior to it. Pain can sometimes be traced in a line posterior to the antrum area and is due to infection of the line of cells that run in this direction.

In bones of a cellular character, the so-called "pneumatic

mastoid," pain is very severe, and extends over its entire surface. It comes on early in the attack and rapidly becomes general, so much so as to lead the surgeon to operate, expecting extensive suppuration, but only to find an extremely cellular bone with acutely inflamed cells filled with blood-clot.

Pain may be absent in those cases where the cortex is very thick and dense or in sclerosed bones met with in cases of long standing middle ear suppuration.

There is another class of cases where pain is very slight and sometimes absent. I refer to those caused by the streptococcus mucosus capsulatus. Dixon, the pathologist of the New York Eye and Ear Infirmary, first called attention to the insidious action of this germ in mastoiditis, and in a series of cases which the writer saw while at the Infirmary, and which were operated upon subsequently, the mastoids showed destruction quite out of proportion to the symptoms exhibited. In many of these cases pain on pressure was very slight, and sometimes absent.

Swelling over the mastoid tip extending down into the neck is seen in the Bezold perforation, where the pus has burrowed through into the digastric groove and found its way into the tissues below. The swelling in these cases rapidly becomes brawny, and is not readily mistaken for infected glands, besides, movement of the head causes considerable pain, owing to inflammation of the upper fibres of the sterno mastoid muscle.

Discharge from the canal may be from furuncles in it, or from middle ear disease; if copious, it points to the latter, and the more profuse the more likely are we to have mastoid abscess to deal with. It may be thin, mucoid and stringy, or thick and creamy in appearance, the former is usually seen in recent cases of a comparatively mild character, the latter in cases of longer duration and of a more severe or chronic type.

It is in the examination of the canal that we find one of the most valuable diagnostic signs of mastoiditis. This is a sagging or prolapse of the postero-superior wall near the drum, and it indicates a suppurative process in the bone. It must not be confounded with circumscribed otitis externa, which often causes a contraction of the canal near this region.

True sagging or prolapse of the canal is soft and can be dimpled with the examining probe, and is not especially painful. Furuncle, on the other hand, is brawny, hard and very painful.

In the pre-suppurative stage of mastoiditis, or in acute purulent otitis media some narrowing of the lumen of the canal can be sometimes seen near the drum, due, doubtless, to an inflammatory process in the canal wall. If the case goes on to suppuration in the bone, this inflammatory condition assumes the character of a prolapse; on the other hand, if resolution takes place, the narrowing disappears.

True sagging of the canal wall should be recognized as such, for it is an important link in the chain of evidence that points to mastoid abscess.

The condition of the drum membrane only indirectly aids in the diagnosis. The longer an inflamed and bulging membrane remains intact, the more likely are we to have pus in the mastoid. Insufficient drainage also tends to this condition. How often do we see, in children especially, cases of subperiosteal abscess where the tympanic membrane is intact. From time to time cases of mastoiditis are reported that exhibited no symptoms of tympanic involvement, but operation having been performed, showed the bone to be diseased. The writer has not seen in a series of many hundred a single case in which there were absolutely no signs in the canal, and it must be indeed a very rare condition.

If the canal be so occluded with furuncles as to shut off any view of the interior, diagnosis is rendered very difficult, and it may be impossible to tell if a mastoiditis coexists.

Should occlusion be not complete, the fork test aids somewhat in determining the coexistence of middle ear disease with otitis externa, as in the latter there is no change in the hearing, whereas in the former air conduction is lost, bone conduction prolonged and the fork is best heard in the diseased ear.

Some investigators claim that a leucocytosis points to mastoid suppuration; others that it is of no value, but that an increase of the polynuclear cells proclaims a purulent focus. From the writer's experience, gathered from an observation of some few hundred cases while resident surgeon at the New York Ear and Eye Infirmary, leucocytosis was of little or no value. Increase in the polynuclear cells occurred in many cases, more especially in those that had been running along for some time, or where there had been considerable destruction of bone as shown by operation.

A polynuclear increase is of service from a diagnostic point of view when it is marked, and when it is placed along with

other symptoms, but care must be taken to exclude intercurrent affections and purulent foci in other parts of the body.

Of the germs found in the discharge from the canal, streptococcus and pneumococcus appear to be the most malignant and are always present in cases of a fulminant type. The inflammatory process is severe and rapid, and does not readily yield to ordinary treatment, so that mastoid involvement is generally the case. The staphylococcus produces much milder symptoms, and the discharge is often watery, or mucoid and stringy in character, and not creamy.

Cases presenting staphylococcus infection or infection of a mixed character comparatively seldom go on to mastoid involvement when ordinary measures in treatment are carried out.

As stated above, the streptococcus capsulatus is a formidable germ on account of it producing symptoms of a very mild character, quite out of proportion to its activity, and on this account cases showing the presence of this germ should be watched very closely. A microscopic examination of the discharge from the canal should be made in every case where possible, as it reveals the nature of the infection and its probable virulence.

Other methods have been brought forward as diagnostic aids, viz., transillumination, percussion and auscultation of the bone, but they are so uncertain as to render them of little practical value.

TREATMENT.

In the presuppurative or early stage of mastoiditis such abortive measures as the application of cold, leeching, etc., are no doubt of service, but when once suppuration has become established, their benefit is questionable. Local blood letting gives rise to a tenderness which may be confounded with that arising from the inflammatory process. Cold relieves the pain, but when discontinued the symptoms recur. Many advocate the application of heat in the form of a hot water bag or moist poultice. This, while it may favor germ activity, seems to facilitate discharge.

If there is an otorrhea, a careful examination of the canal and drum membrane should be made, and measures taken to provide a free drainage, enlarging the existing opening, if necessary, with a blunt knife.

Should the canal be dry, and a bulging drum present, a free incision should be made, extending from the extreme lower

margin around the posterior circumference and up into Schrapnel's membrane, the knife being drawn outwards for a short distance in the wall of the canal. In this manner, at least half of the circumference of the membrane is incised and depletion is obtained from the incision in the canal wall. Gentle irrigation with warm antiseptic solutions, such as the bichloride of mercury, 1-5000, may be now carried out every two or three hours as required to keep the canal free of discharge.

An incision made in the above manner seldom or never closes so soon as to shut off the discharge, and can be most efficiently done under nitrous oxide gas or ethyl chloride. Should the discharge be thick and the pain in the bone severe, warm boracic fomentations may be applied for a short time and the effect watched.

Having carried out such general measures as rest in bed, fluid diet and catharsis, the patient can be held under observation for from 24 to 48 hours.

There is no doubt that many cases of suppurative mastoiditis get well with some such treatment as above, but, should the discharge become profuse, the canal wall show distinct prolapse and the tenderness increase in intensity and area, operative procedure is necessary. It is also necessary in those cases of some days' standing, where marked tenderness is found in the tip, and posterior to it and to the area over the antrum, for it shows an extension of the diseased process in the neighborhood of the sigmoid sinus. A cessation of the discharge, with increased tenderness over the mastoid are unfavorable signs.

In cases where there has been abscess formation under the periosteum covering the mastoid, or where pus has found its way into the tissues of the neck, the opening of the mastoid is imperative. It is especially indicated in cases where there has been an acute attack, upon a chronic discharging ear, for here the mastoid is sclerotic, and accumulated discharge is forced in towards the intracranial structures; the destruction of bone is also very rapid, and it is not uncommon to find exposure of the facial nerve with signs of paralysis, erosion of the semi-circular canal, or necrosis through the inner plate, and the formation of granulations on the dura, or a purulent focus in the sinus groove.

absence of pain on pressure, and it is difficult to tell the condition of the interior; under such circumstances it is better to open the bone and be on the safe side.

Should operative measures be deemed necessary, the question arises, what kind of operation should one do, and how far should one go.

The so-called Wilde's incision is now almost obsolete, and justly so, as it is not in keeping with modern surgical practice. The modern mastoid operation, with its improved technique, exposes the patient to comparatively little danger and renders recovery more certain.

This operation, as performed by advanced surgeons to-day, aims not only to secure immediate and complete drainage from the antrum, but to remove as far as possible all softened and diseased bone.

The experience of the surgeon alone, will indicate to him how thoroughly this should be done, the condition of the patient, the duration of the disease, and the gross appearance of the tissue all being taken into consideration. There are some surgeons who still claim that antrum drainage is sufficient and that the bone will take care of itself. Against this the writer's experience leads him to state that there are two, if not three, areas which seem prone to be invaded, and that rather early in the attack, more especially should the mastoid prove to be a cancellous one.

These areas are, the line of cells extending posteriorly from the antrum over the knee of the sinus in the angle between it and the floor of the mid-fossa, the cells in the root of the zygoma, and the cells in the median groove leading down into the tip. Any recurrences that the writer has seen have been almost invariably due to diseased bone occurring in one or more of these regions. They should be examined in every case, and the softened bone curetted away. The tip also, being usually a very cellular part, and frequently infected, should for the accumulation of discharge flowing from the aditus. perly executed.

The whole interior of the cavity formed should be smoothed out, as it greatly facilitates granulation, and no pockets remain for the accumulation of discharge flowing from the oditus. The antrum itself is opened widely, and the tegmen examined for erosions. Should there be granulations blocking the aditus and preventing free drainage, they can be readily removed with a small ring curette, care being taken not to detach the incus.

In acute exacerbations on chronic cases it is wise to explore the sinus groove, especially if the patient shows septic symptom. If the abscess has gained access through erosion to the

sinus or dura, producing a perisinuous or epidural abscess, the bone should be clipped away from the inflamed parts until normal sinus or dura is seen.

The advantages of this operation over the more conservative one are :

1. Skilfully done, it does not expose the patient to any more danger.
2. The probability of a recurrence is much lessened.
3. It provides a healthy basis for granulations to form, thereby promoting rapid and uneventful healing.
4. The drainage through the aditus is immediate and the discharge from the canal ceases in a few days.
5. It fulfills the demands of modern surgical practice in dealing with diseased bone.

It may not be out of place here to review a few points in the technique of this operation.

The primary incision should be made curved and parallel to the post auricular furrow, and not straight; the scar will then be well hidden.

Care should be taken in peeling up the periosteum not to lacerate it, and so preserve as far as possible its regenerative function.

The fibres of the sterno-mastoid muscle should be thoroughly freed from the tip. This can then be removed without tearing out the muscle fibres and leaving a ragged condition in the lower angle of the wound, where discharge can accumulate and infection take place. Neck abscesses often originate from lack of attention to this particular.

The primary groove through the cortex is safely made with a moderately broad gauge and the furrow widened, if necessary, with a rongeur working from below upwards, for the sinus is deeper here and not so apt to be injured. The remainder of the operation can be performed with the curette and rongeur, and the patient saved the shock which makes chiselling so objectionable.

Should the antrum be difficult to find, owing to eccentricity of position, care must be taken not to work too deeply; otherwise one is apt to go through the posterior wall into the tympanum below the external semi-circular canal, and injury to the facial nerve result. In these cases the antrum will usually be found abnormally high, indeed in some cases above the level of the superior canal wall, and it is here it must be searched for.

In examining the root of the zygoma, it is well to remember

that the floor of the mid-fossa dips here and it is easy to break through to dura.

In operating upon children and infants with post-auricular abscess, the point of the knife should not be used in making the incision through the integument, for the sinus is superficially placed, and may be uncovered in the necrosing process. The bone in infants, too, is very soft, especially the diploe, and care should be taken not to sacrifice this active reparative tissue, thinking its condition pathological.

In all cases the chief accidents to be guarded against are, wounding the sinus, opening the semi-circular canal and injury to the facial nerve.

In cases where the canal is almost or quite closed with furuncles, and one suspects the coexistence of a mastoiditis, the furuncles should be thoroughly opened and treated, meanwhile watching for signs of mastoid trouble.

Where there is a periauricular phlegmon and abscess formation, diagnosis becomes extremely difficult or quite impossible, the only recourse being to open down to the bone and examine its condition.

The post operative treatment is important, as on it depends the rapidity of healing. Iodoform gauze is perhaps the best packing, as it promotes the early formation of granulations. The pain caused by the removal of the gauze at the first dressing led Whiting to suggest the use of perforated rubber tissue interposed between the gauze and the wound surface. The removal of this dressing causes little or no pain, as the writer can testify, but the wound surface presents a somewhat sloughy appearance.

Granulations are stimulated by Balsam of Peru or by re-packing with iodoform gauze, care being taken to insert the gauze loosely in order to give the granulating surface all the encouragement possible. In regard to the employment of the blood clot method, the writer wishes to state that, after having seen it employed in a considerable number of cases, the results have not been such as seem to him to justify its use. Every effort was made in these case to perform the operation as thoroughly as possible, and with every precaution as regards asepsis. The result could never be predicted and, with the exception of a very few, all had to be opened up and the clot turned out. It appeared to have become infected from the discharge through the aditus as a purulent focus could be seen in this region. The discharge from the canal, too, continued for a much longer period than in those cases treated

openly, a condition doubtless due to the limited posterior drainage.

In the majority of cases of suppurative mastoiditis opening the bone seems to be the most satisfactory and certain procedure, for, though many cases get well without it, they do not balance those that are lost through palliative treatment.

In support of the plea for earlier and more frequent operations in suppurative mastoiditis, three considerations have been brought forward.

1. The frequency of chronic cases.
2. The frequency of intracranial involvement.
3. The fact that all cases of middle ear disease mean involvement of the antrum if not the mastoid.

TORONTO GENERAL HOSPITAL.*

By JAS. F. W. ROSS, M.D.

President of Ex-House Staff Association.

Accept my thanks for the honor you conferred upon me by electing me as President for the year that is just passing.

It is my intention to endeavor to interest you in a few of the details connected with the lives of medical men who lived in Toronto and were active in connection with hospital life here during the term of my incumbency as hospital interne, and who have passed away. It is not my intention to say anything regarding the living.

The General Hospital was established in 1819 through the efforts of the Military Surgeons when there were about one thousand souls living in Toronto. The Chairman of the Medical Board was Dr. Christopher Widmer, and he held the position for thirty-five years. He was the recognized leader of the profession at that time. He died in 1858. I have often talked to my mother about him, as he attended the family of my grandfather, John McIntosh, who lived on Yonge street, near the corner of Queen, and he attended my grandfather in his last illness. His conduct as a Doctor was exemplary. He came in, pulled off his coat and hat, saw his patient, and went out as he came in, in a purely professional capacity, strictly attending to his own business. Widmer lived on Wellington street, near York; I remember the house quite well. It was a double story roughcast building with a verandah around it and placed on an ample lot. Hard by was the gaol, and as Widmer was gaol surgeon, the gaol was conveniently situated for him. In front of his residence was a large square called the Fair Green, where the boys of the time played games. His funeral was very largely attended. On the 7th of May, 1858, after it was over, a meeting of the prominent members of the medical profession was held, and it was resolved that a full length portrait of the deceased be painted and placed temporarily in the Board Room of the General Hospital, until such time as the contemplated Medical College should be erected.

Widmer was a founder, and the first President of the Medico-Chirurgical Society of Upper Canada, established in 1833, so that he may be looked upon as at least one of the pioneers of medicine and surgery in Upper Canada or Ontario. The Medical Board

* Delivered at the Second Annual Meeting of the Association, May 27th, 1907.

was created by the Medical Act of 1818, just one year before the establishment of the General Hospital. The place of the Medical Board was taken by the College of Physicians and Surgeons, but as this body came into contact with the Royal College of Surgeons of England, the Act creating it was disallowed and a return was made to the Medical Act of 1818 and to the similarly constituted Medical Board. I show here one of the diplomas granted after the presentation of the certificate of the Medical Board to the Provincial Secretary, and signed by the Earl of Elgin and Kincardine, himself a graduate of Merton College, Oxford. The license of practitioner was granted to my father in the year 1851. I have also to show you a drawing made originally by the late Dr. Norman Bethune, and published in the *Anglo-American*, a current magazine of the period, and given by me to the Ontario Medical Library Association, now the Academy of Medicine. It gives you a lifelike and characteristic representation of Drs. Widmer (Chairman), Herrick, with his thumb over his shoulder, King, Bovell and Workman.

From Robertson's Landmarks we learn that the first hospital was built in the grounds bounded by King, Adelaide, Peter and John streets. Its erection was superintended by Dr. Grant Powell, and it was built largely with money raised by subscription. The building was a two-storey one, and a plate representing it will be found in Robertson's Landmarks. In 1824, after the Parliament Houses had been burned, the Legislature met here during the time of the terrible cholera epidemic of 1847, which scourged the people. The hospital was taxed to its utmost capacity, and many horrible scenes were witnessed. Several prominent medical men lost their lives. In 1850 we learn that there were about one hundred patients in the institution. It was endowed with land within the city limits and had also a grant from the Legislature. After the hospital was removed to the present site, the original grounds were built on, and what was subsequently called the Bridal Row occupied the King street front next to John street. I remember this row quite well; it was subsequently altered, and now constitutes the Arlington Hotel. The present building is, as you know, situated on Gerrard street east, bounded by Gerrard, Spruce, Sackville and Sumach streets. At a subsequent date a fever hospital and an eye and ear infirmary were added. The eye and ear infirmary was built by money obtained through the death of Andrew Mercer. He left no will, and his property fell into the hands of the Government of the day. The fever hospital was built by two or three large subscriptions. Later on the Burnside Lying-in Hospital was removed from Richmond and Sheppard streets to the north-west

angle of the hospital grounds, and later still the present pavilion for women was erected as a convalescent home and then converted into a gynaecological department.

It appears that there were petty jealousies of one kind and another; it was felt that a certain ring had too much power, and in 1836 an onslaught was made in an effort to manage hospital affairs on a broader basis. A resolution passed at that time was as follows: "That it is the opinion of this meeting that over the hospital of this city a veil of obscurity impends which it is highly advantageous to have removed. No appointed days await the attendance of the medical men in connection with the institution. No published reports inform the public of the number of those who have been restored to their friends cured of their infirmities; the passing bier alone affords a melancholy proof that the institution still exists in active operation." I take this sentence from the excellent address to the Toronto Clinical Society by Dr. Anderson "On the Evolution of Medicine in Ontario." Politics were very much mixed up in this attack, and Drs. Rolph and Baldwin were foremost in the fight. Rolph was undoubtedly a very remarkable man, but I should judge overbearing and dictatorial. He was originally an able lawyer, and becoming dissatisfied with what he considered an unjust decision, he studied medicine, and passed the Medical Board in 1829, at the age of 40. The private medical school established by him in opposition to the newly created medical faculty of King's College afterwards became the Toronto School of Medicine. The Medical Faculty of King's College in 1843 was constituted as follows:

Surgery	Prof. Beaumont.
Medicine	Prof. King.
Physiology	Prof. Gwynne.
Materia Medica	Prof. Nichol.
Chemistry	Prof. Croft.
Obstetrics	Prof. Herrick.
Medical Jurisprudence	Prof. O'Brien.
Anatomy and Curator of Museum.	Prof. Sullivan.

Dr. James H. Richardson, tells us that Beaumont's lectures, prepared with great care, were delivered to him alone, but that each of them wore academic costume during the recitation. And this was the faculty severed from the University, to be reunited again in 1887 and to be followed by the amalgamation of our two universities, Toronto and Trinity, in 1903. Among the men I remember very well was Dr. Hodder, who died during my term as interne at the General Hospital. He commanded universal respect,

and was the first here, as far as I know, to undertake ovariectomy. As this was in the days before antiseptic and aseptic surgery, the operation was an extremely hazardous procedure. He was an enthusiastic yachtsman, and Commodore of the Royal Canadian Yacht Club. I remember his residence quite well; he lived on Queen street, in a large, double two-storey house. Dr. Bovell was early attached to the hospital, and a favorite with all who knew him. His chief strength lay in his ability as a diagnostician, but he was like many a Doctor, unfortunately, no business man. Later in life he was ordained in the Episcopal Church, and removed to the Island of St. Thomas, of the West Indian Group.

Among the older men of that time was Dr. Philbrick. He lived and died in what was then called Yorkville, now the northern portion of the city. My father as a young practitioner had many consultations with him, and as I drove about with my father while making his rounds, I came frequently in contact with Philbrick, as well as with Hodder, Nichol and Workman among the older men. Philbrick was shaggy, unkempt, and though an able surgeon, was not of the modern aseptic type. He was a convivial companion, well read and interesting, though afflicted with deafness.

Another practitioner who held many inquests at the hospital and is not often heard of now, was Dr. Riddell, who lived on George street. He was afflicted with squint that was detrimental to his appearance, but intellectually he was a bright man. He was for a long time looked upon as our ablest coroner, and living near my father's house, I saw him frequently and knew him well. I remember as a boy being very much shocked at a remark he made when asked by some inquisitive busybody "if his sins had been forgiven," when he replied that "he would easily wash them out with a scrubbing brush." He had a good heart, and his bark was much worse than his bite. Originally a printer, he deserved much credit for putting himself through. As he left Rolph's School of Medicine to finish elsewhere, Rolph, as a member of the Medical Board, endeavored to castigate him by refusing to sign the certificate upon which the diploma would subsequently issue. The matter was later straightened out by the strong hand of the President of the Board, Dr. Widmer, and Riddell was granted a license. He was one of the health officers of the city. One of the best surgeons on the staff at that time was Dr. Norman Bethune. He was the son of a Hudson Bay factor, and made a trip to Hudson Bay as a surgeon to one of the company's ships. He practised for a time in Edinburgh and then removed to Toronto, where he remained to the time of his death. He was full of quiet humor, and as you can see by the sketch presented, he excelled as a caricaturist. I

knew him quite well, and had a very great admiration for him. He was not blessed with wealth, but he had the happy knack of talking little and minding his own business. He was more difficult to know than many of the others with whom I was associated as hospital interne and afterward as a fellow practitioner, but he was absolutely reliable from a professional point of view, and he had an ever ready kind word for the struggling young practitioner. Dr. John Small was on the visiting staff in my time. He and my father were well acquainted, as were our families. He had a large and fashionable clientele and was looked upon as one of our best consulting physicians. He had no liking for surgery. I remember a peculiar characteristic, namely, his businesslike method of looking after his fee. He would ask for it at the time, and insist upon obtaining it before leaving the house. He had given up his goods and demanded the price, and rightly so; but this did not prevent him from doing much for charity when charity was really needed. He lived at the corner of Church and Queen streets, afterwards moving to the corner of Simcoe and Richmond streets, where he died.

Among the surgeons was Dr. W. T. Aikins, an able surgeon and a leader among men. He lectured on surgery in the Toronto School of Medicine and attended on the staff of the Toronto General Hospital. At that time there was no division of service, and the members of the staff were general practitioners, until a later date, when under the regime of Dr. C. O'Reilly, the services were divided into medical and surgical. Dr. Aikins lived on Queen street west, near Terauley, and afterwards built a fine residence on the corner of Jarvis and Gerrard streets, where the medical students of that time frequently partook of his generous hospitality. He was looked upon as the ablest surgeon in this part of the country, and was undoubtedly well in advance of his time. I knew him as a student, as an intimate friend of my father, and as I look back at this distant date it gratifies me to see him stand out head and shoulders above his contemporaries in his department.

Another of the old teachers was Dr. H. H. Wright. Our families were on intimate terms, and owing to the proximity of our houses and the absence of telephones, there were frequent exchanges of professional courtesy between my father and Dr. Wright. Dr. Wright lived on Queen street east, in the house vacated by Dr. Workman, after the latter's appointment as Superintendent of the Lunatic Asylum. Dr. Wright lectured on Medicine in the Toronto School of Medicine, and was for many years on the staff of the Toronto General Hospital. It was difficult to get very close to him, as he was wrapped up in the study of his profession; but

notwithstanding his reserve, he was a man with a kind nature and a warm heart. He abhorred surgery. His lectures were excellent, though dry, and the tersely arranged matter suffered from the peculiar manner of delivery. He was a fair fighter, and was always scrupulous in his observance of the rules of medical etiquette. He lived to a very ripe old age. Following in his footsteps came a favorite teacher, James E. Graham. He studied in Toronto about 1868 and occupied the Professorship of Medicine in the University of Toronto from 1887 to 1899. No medical man in Toronto was held in greater esteem by his fellow practitioners. He was of a quiet, retiring disposition. Tyndall has well said, "that without honest labor there can be no true joy," and indeed all that was achieved by James E. Graham was accomplished by honest labor, and he was rewarded by true joy. Happy in his family and in his home, enthusiastic in regard to everything that pertained to his beloved profession, he was at last rather suddenly taken away from a host of sorrowing friends. We all loved him and will keep his memory green in the years to come.

One of his intimate associates for years, and also in the school, and an active member of the staff of the General Hospital, was Dr. L. McFarlane. He was genial and bright, but was disappointed owing to the fact that he had no family. He was a great favorite with the students, easily approached, and with a kindly disposition. His death was a tragic one. His life was sacrificed in an endeavor to save the life of a man who was ill with frost-bitten feet, resulting in a punctured finger, septicaemia and death.

Another well-known figure at that time was Dr. Thorburn, who lectured on *Materia Medica* and served on the staff of the General Hospital. Many of you here knew him, as it is but a short time since he passed away. He enjoyed a large practice for many years, and retired with a competency. He was businesslike in his methods, and a large attendance of the members of the profession at his funeral showed the marked esteem with which he was regarded.

One of the well-known figures of that day was Dr. Workman. Long before I studied Medicine, he was placed in charge of the Lunatic Asylum. That was in the year 1854, and in the year in which I entered Medicine, 1875, he entered into private life to enjoy well-earned repose. As he had transferred a large portion of his practice to my father in 1854, I saw a good deal of him, as our families were intimately acquainted. He was for many years a frequent visitor at the Toronto Medical Society, of which he was the first President. This society met at that time in the building of the Canadian Institute, on Richmond street, between Church and

Victoria. Dr. Workman completed his course at McGill, but came to Toronto to attend to some business matters. After a time he longed to go back to his first love, and as Dr. Rolph was anxious to get him as a teacher in his school, he offered him the Lectureship of Midwifery and Diseases of Women and Children, and in 1846 Dr. Workman accepted this offer. He was a member of the Medical Board, and can be readily distinguished in the sketch by Dr. Norman Bethune previously alluded to. He died in 1894. In 1896 his portrait was painted, and for years adorned the meeting room of the Toronto Medical Society, and now graces one of the walls of the Academy of Medicine. He was respected and esteemed by all who knew him.

I find that in 1850 the attending physicians of the Toronto General Hospital were Widmer, King, Telfer, O'Brien, Herrick and Beaumont. The resident surgeon was E. Clarke. During the winter session clinics were given twice a week by Drs. King and Beaumont. In speaking of the General Hospital and mentioning the Burnside Lying-in, we naturally say, "Who was Burnside?" In looking up the records, I find that he was a large-hearted Yankee quack and promoter of the Mechanic's Institute, now the Public Library; an encourager of church music, and a man who died without a family, left all to charity, and nearly all to Trinity University. After having been refused a license by the Medical Board, he was ultimately found two years later qualified to practice and granted a diploma. Though an ignorant man, he was undoubtedly a money maker. In St. James' Cemetery is a tombstone erected to his memory by Trinity University, and Dr. Richardson draws attention to the fact that the inscription has rather an ambiguous termination, stating that "he is gone, *we trust*, to a better place."

In 1878 six internes were appointed for service in the General Hospital, viz., J. W. Lesslie, Gerald O'Reilly, J. F. W. Ross, W. Lehmann, R. A. Ross, R. M. Stephen. Stephen and R. A. Ross have crossed the bar. At that time the hospital was not what it should have been. Dr. C. O'Reilly, of the Hamilton Hospital, had but recently taken charge as Medical Superintendent, and he was forced by circumstances to make haste slowly. There were no trained nurses at that time, and I have still a very vivid picture in my mind of Mrs. Fogarty and Mrs. Pyne, two matronly women in charge of important departments, who have been some time deceased. "*De mortuis nil nisi bonum*," and yet in such a sketch it is difficult to follow on the march of progress without treading on someone's corns. But we must tread lightly.

The nursing was not such as we have at the present time. These-

good-hearted women were about on a par with our present ward tenders. They had no lectures, no special education, and no training school. A change was gradually brought about, and one of the finest training schools to be found anywhere was established. Whether it is keeping up to its high-water mark or not I cannot say, but I hope that nothing will be allowed to interfere with the continuance of the high standard. The hospital improved step by step under the able management of Dr. C. O'Reilly. Those who were brought into contact with him and his work know what he accomplished. But we all weary of well doing, and such continual strain will wear down the strongest, and he wisely decided to take a well-earned rest. New blood was then instilled into the Board and into the internal management, and further changes are wisely contemplated in the personnel of the staff. Young men should undoubtedly be advanced, and other things being equal, the trustees should pick from their own brood, the brood they have nurtured and instructed. They know better the young men they have trained than those trained elsewhere. And let me say to you that this very organization should begin to exert an influence towards accomplishing this end. And now we can feel that the modern hospital of the Sahara Desert has about arrived; at any rate, it is long overdue. And finally, let me say to you, cherish the old institution that has done so much for us, and to which we one and all owe more than we can repay. Faint praise is sure condemnation; but does she require any faint praise? Most assuredly "No." A parent may love and chide; we may cherish, may reverence, and yet be ready to oppose with all our strength any innovations that we feel will be a source of weakness to our dear old Toronto General Hospital.

Selected Articles.

LABOR IN CONTRACTED Pelves.*

By KENNEDY C. McILWRAITH, M.B., TORONTO.

A sociate in Obstetrics, University of Toronto; Assistant at the Burnside Lying-in Hospital; Obstetrician to St. Michael's Hospital, Toronto, Canada.

I wish to lay before you at this time the histories of some labors complicated by contracted pelvis and some conclusions to which my observations of them have led me. My series embraces twenty-seven labors. Four of the women I confined twice. There were, therefore, twenty-three patients. Complete pelvic measurements were not taken in all cases, and where these were wanting the diagnosis was made from the length of the diagonal conjugate and the nature of the labor.

These cases present themselves to the obstetrician under two entirely different sets of circumstances. He may not see the patient until labor is more or less advanced, or he may be consulted beforehand. The greater number of my cases fall under the first heading.

It is not my purpose to cite more than two or three illustrative cases. The first that I have chosen is that of C. W., I-para, Canadian, whom I delivered at St. Michael's Hospital on February 20, 1905. I do not know how long she had been in labor, but three hours after she came to the hospital the liquor amnii was found to be all away and both feet presenting in the os. Delivery was preceded with and the head delivered with difficulty by shoulder-jaw traction and suprapubic pressure. Her measurements were:

Interspinous, 29 cm.; diagonal conj., 11 cm. Intercrestal, 28 cm.; post. interspin., 10 cm. External conjugate, 15.5 cm.; true conjug., 8.5 cm.; true transverse, 10.5 cm.

The measurements of the child's head were:

Occipito-front., 13 cm.; bitemporal, 8 cm.; sub-occip.-breg., 10 cm.; biparietal, 10 cm.; bimastoid, 8 cm.

The measurements of the child's head were taken as soon as the effects of molding had passed off; the internal measurements by Skuttsch's internal pelvimeter. Mother and child both did well.

The next case is that of Mrs. B., V-para. English, aet. 31, whom I confined at the Burnside on February 7, 1906. She came to the

* Read before the Toronto Clinical Society, March, 1907.

hospital after twelve hours of severe labor. The liquor amnii had escaped an hour before she began to feel pain. Her pains were violent, the head was not engaged, the position was O. D. P., the os was the size of a crown piece and dilatable. I dilated the os manually, easily did podalic version, and delivered. It was difficult to get the arms down, and one clavicle was fractured in the process. Shoulder-jaw traction and suprapubic pressure were tried ineffectually for a minute or two, but finally the head came through the brim suddenly. The measurements were:

Interspinous, 25 cm.; diag. conjug., 10.5 cm. Intercristal, 26 cm.; true conjug., 8.2 cm.; external conjug. 19 cm.; true transverse, 11 cm.

The baby's measurements were:

Oc. ment., 15 cm.; biparietal, 9.5 cm.; oc. front., 12 cm.; bitemporal, 7.5 cm. Sub-oc.-breg., 11 cm.; bimastoid, 8 cm.

It was a male and weighed eight pounds one ounce. The arm was bound to the side for ten days, by which time the clavicle had united. Mother and child left the hospital well at the end of two weeks. This woman's previous labors were difficult instrumental cases, except one, which was rapid and unaided. Two girls were born alive. One boy was born dead, and one boy died on the tenth day.

These cases prove that when the head comes last a living, full-term, full-sized child may be delivered through a pelvis with a conjugate of from 3.25 to 3.50 inches, with a slightly shortened transverse; and that such a degree of contraction is occasionally no bar to a normal natural labor.

In the first case, the child presented by the breech. In the second, the head was presenting, but not engaged after some hours of severe labor. In the latter case the question arises: Why not apply the forceps? Before answering this question let me give you the history of another case or two:

Mrs. C., seen in consultation. The patient had been forty hours in labor; all the liquor amnii had drained away, and a marked retraction ring was present; there was a huge caput succedaneum; the head was in the O. L. A. position, tightly jammed against the brim, but not entering it, and the fetal heart was beating strongly. The Barnes-Simpson forceps had been applied by the attending physician, but had slipped off. I applied the Porter Mathew axis-traction forceps, and they, too, slipped. We were then confronted with that most horrible of all obstetrical operations—craniotomy upon a living child. Rather than do this, I decided to try version, and accomplished it with great difficulty. The child's heart beat for some little

time after delivery, but it did not survive. The mother made an uninterrupted recovery.

Mrs. C., seen in consultation. This woman has some hip-joint trouble, and her pelvis is unilaterally contracted. To her first confinement I was called after she had been a long time in labor. I applied Porter Mathew axis-traction forceps, and after a long, hard pull delivered a dead baby. To her next labor I was called early and found the liquor amnii present and the os dilatatable. I dilated the os manually and easily did a version, bringing the occiput into the widest part of the pelvis. The child was delivered with difficulty, but safely.

Mrs. W., seen in consultation. This patient was a I-para who had been a long time in labor. The position was O. L. A., the head not engaged. Axis-traction forceps were applied and considerable traction made, but the head would not engage. In making an examination after this trial I noticed a suspicious grating of the bones of the head. However, I proceeded to do a version and delivered the child. It breathed and cried at once, but within an hour it died, apparently of cerebral hemorrhage. The occipital bone was fractured, I think, by the forceps. Such has been my experience almost invariably. When the head is above the brim it is impossible to draw it into a contracted pelvis with forceps and have the child live. Herman says: "The choice between forceps and turning, when the head is in a favorable position, depends mainly upon the extent to which the head is engaged in the brim." With this I entirely agree.

Why not try forceps first and, if they fail, *then* do a version?

Because, unless the greatest diameter of the head has already molded through the brim, they nearly always *do* fail.

Because the application of the forceps furthers the escape of the liquor amnii and thereby renders a subsequent version more difficult; furthermore, forcible trial of the forceps exposes the infant to great danger of fracture of the skull; and, lastly, the best time to apply the forceps is after the head has molded through the brim, whereas turning should be done early, before the liquor amnii is lost. Allow me to summarize the results:

All the mothers made good recoveries. Eight infants were born dead and nineteen alive. Of the eight infants born dead:

One was in the case of the patient above referred to, who had been a long time in labor. The forceps had been tried unsuccessfully and the version was very difficult.

One was in the case above referred to, in which the forceps alone were used.

One was in the case of a woman brought in from the country

after a long labor. The cord was prolapsed and the child dead. Craniotomy was done.

Two were cases in which the lack of dilatation of the soft parts seemed to me to be responsible for the result.

One was a face presentation. The patient had been in more or less severe labor for three days.

In one the forceps were tried first, and were, I think, responsible for the death of the child.

One was a miscarriage.

In only one of the eight was the prophylactic, or early version, done. In this case, had more time been spent in distending the vagina and perineum, or had the labor been permitted to go on for a time as a breech case after the version was done, the result might have been different. I venture to think that these results are very good in a series of cases of pelvic contraction so great that the induction of premature labor, symphyseotomy, pubiotomy, and Cesarean section have been variously recommended for them at different clinics.

A few observations on the value of external mensuration would seem to be in order.

Of one hundred women who had no contraction of the conjugate the average measurements of the interspinous, intercrystal, and external conjugate diameters compare with the averages of my contracted pelvis series as follows:

	Uncontracted.	Contracted.
Interspinous	25.40 cm.	24.03 cm.
Intercristal	27.96 cm.	26.23 cm.
External conjug	19.6 cm.	17.23 cm.

The average difference between the interspinous and intercrystal diameters was, in the uncontracted pelvis, 2.56 cm., and in the contracted 2.20 cm.

It would seem from these averages that external mensuration should give us, as a rule, some knowledge as to internal contraction, and as a matter of fact it does. The measurements vary, however, within somewhat wide limits, *e.g.*:

	Uncontracted.		Contracted.	
	Max.	Min.	Max.	Min.
Interspinous	29 cm.	22 cm.	29 cm.	19.5 cm.
Intercristal	31.5 cm.	25 cm.	28 cm.	23 cm.
Extern. conjug	22 cm.	16 cm.	19.5 cm.	15 cm.

Occasionally in a patient whose external measurements would seem almost certainly to indicate an internal contraction, the

internal measurements are found to be normal. The following is a case in point:

A. M., I-para, confined at the B.H. on March 25, 1906. There was no difficulty in the labor, which was over in ten hours. The infant weighed 6 pounds $3\frac{1}{2}$ ounces. In this case the external measurements were:

Interspinous, 26 cm.; transverse outlet, 10 cm.; intercrystal, 27 cm.; pubococcygeal, 11.5 cm.; external conjug., 15.5 cm.; post-interspinous, 7.5 cm.

Between the summits of the crests 23.5 cm. The internal measurements, taken with a Skutsch pelvimeter, were:

True conjugate, 10.6 cm.; true transverse, 11.5 cm.; diagonal conjugate, 12.0 cm.

On the other hand, the conjugate may be shorter than the normal without marked alteration in the external measurements.

I say *marked* alteration because the measurements vary within such wide limits in normal pelvis. External mensuration, therefore, should be confirmed by internal mensuration, and by other signs to be hereafter referred to. The diagonal conjugate (the distance from the anterior surface of the promontory to the under border of the subpubic ligament) is a surer guide. It cannot always be taken, however. In a lady who was referred to me for examination recently the vagina was so short that I could not, even with the patient under chloroform, reach the promontory.

A very valuable indication is given by the failure of the head to engage in the brim at the onset of labor when the patient is a primipara and the position normal. The type of contracted pelvis met with was the simple flat pelvis in all the women but two. Of these one had a kyphoscoliotic pelvis and the other a pelvis obliquely contracted as a result of old hip-joint disease.

In conclusion, I might remark that careful mensuration has led me to the conclusion that minor degrees of contraction of the pelvis are more frequent on this continent than a perusal of the obstetric literature would lead one to suppose.

Interspinous, 25 cm.; diag. conjug., 10.5 cm.; intercrystal, 26 cm.; true conjug., 8.0 cm.; extern. conjug., 18 cm.

The measurements of the baby's head were:

Trachelo-breg., 11 cm.; bitemp., 8 cm.; occip.-ment., 13.5 cm.; bipariet., 9 cm.; occip.-front., 12 cm.; bimastoid, 7 cm.; sub-occip.-breg., 9 cm.

The version was easy, but the delivery difficult. The infant lived, apparently in fair health, for five days, and then suddenly died. The autopsy showed subdural hemorrhage, hemorrhage

into the suprarenal capsules, and two large hematomata on the under surface of the liver, one of which had apparently ruptured, causing death by internal hemorrhage. The conclusion from this case would be that this method of delivery is not applicable when the conjugate is shorter than 8.0 cm. The mother in this case had an uninterrupted recovery.—*Amer. Jour. Obstetrics.*

BRIEF HISTORICAL NOTES.

The development of the asylum system in Ontario has been a short and rapid march from ignorance, superstition and fear, to knowledge, science and hope. This journey is not yet by any means completed, but it is well begun, and we can safely predict that those of the next generation who are so unfortunate as to be mentally afflicted, will never experience the inhuman treatment that was meted out to the same class in the last generation. Until the year 1840 the only thought given to these poor sufferers was, to provide legal machinery to lock them up when they were thought to be a menace to life or property. As late as 1835, when some who are still alive were fully grown men, an Act was passed by the Legislators of Canada providing that two magistrates could issue a warrant ordering that a lunatic or mad person be locked up in some secure place named by them, and if they deemed it necessary, the warrant ordered that he be *chained*. At that time the places in which these mad people were locked were usually gaols or lock-ups, but gaols being situated at great distances from each other, often these people were chained for days and weeks in old stables or in any unoccupied building that was considered strong enough to hold them.

At this time only those were admitted who were considered dangerous to the lives or property of their neighbors. Later on this class was enlarged so as to include those who might do injury to themselves, and still later those who because of their peculiarities might be considered a nuisance when allowed full liberties, but it was only recently that it has been considered necessary to build and equip institutions for the treatment of those who are suffering from mental or nervous disease.

These old-fashioned gaols soon become crowded, and in 1841 the first building was opened for the reception of the mentally afflicted in Upper Canada. This was a building that had, even at that early date, become obsolete as a gaol. The recently abandoned gaol of York which stood on Toronto street was opened

as a temporary asylum. It is distressing to think that a building which had become unfit for the shelter of criminals was made use of for the treatment of the sick and afflicted. This building continued to be used for some years, but in 1844 Dr. Widmer, Mr. Ewart, Mr. J. G. Chewett, Sheriff Jarvis and Dr. King were appointed a committee to superintend the erection of the first asylum of Upper Canada. This is the present Asylum of Toronto, on Queen street west. It was begun in 1845, and was so far advanced that patients were admitted in 1850.

The demand for accommodation was increasing so rapidly that before the new institution was opened patients were confined in the old gaol on Toronto street, in the wing of the Parliament Buildings, and also in a house at the foot of Bathurst street. When the new building was occupied these branches were closed as soon as possible, and in 1853 Dr. Jos. Workman was appointed Superintendent. To him Ontario owes a debt of gratitude. He was really the first to devote time and study to the care and treatment of the insane, and to him we must give credit for much that is good in our present institutions. About this time a new asylum was born in a stable in Kingston. In 1856 this stable was fitted up to receive twenty-four female patients. Only 50 years ago, and a made-over stable was good enough for the treatment of the excited nerves of a delicate woman. Think of it!

In 1862 the present Rockwood Hospital was opened; but it, like its predecessor, was intended for the reception of the criminal insane, and was owned and managed by the Federal Government, as a part of the Kingston Penitentiary. In 1877 the Ontario Government took it over, and it has since been used as a hospital for all classes of insane.

Still the accommodation for the insane of the Province was insufficient, and in 1859 the old Military Barracks at Fort Malden were used. Patients were kept there until about 1870, when the present London Hospital was ready to receive them. And yet the demand grew, and in 1879 the Hamilton institution was opened, and again in 1890 one at Mimico, and yet again in 1894 the Eastern Hospital at Brockville. Since that time the old Victoria College of Cobourg has been made to accommodate a class of senile women patients, and the old Reformatory at Penetanguishene has also been made a home for senile cases.

All these institutions are for the care and treatment of the insane; but besides these, Ontario opened in 1876 the Orillia Asylum for Idiots, and in 1906 the Hospital for Epileptics at Woodstock.

Sixty years ago the public institutions for the care of the mentally afflicted in Ontario were two or three scattered houses in Toronto. Now we have:

Toronto Hospital for Insane, accommodating	850
Hamilton Hospital for Insane	1,100
London Hospital for Insane	1,050
Mimico Hospital for Insane	650
Rockwood Hospital for Insane	625
Eastern Hospital for Insane	675
Cobourg Hospital for Insane	150
Penetanguishene Hospital for Insane	250
Orillia—Imbeciles	800
Woodstock—Epileptics	180
	6,280

Again, instead of bolts and bars, straight jackets, muffs and solitary cells, we now have continuous baths, spray baths, hot and cold packs, and other modern scientific equipment for the treatment of our patients.

Instead of the old-time guards, we now have male and female nurses, who are taught the essential principles of nursing, and who are all able to keep clinical records and charts; who are able to administer the different baths, who give massage, and who are taught that every patient coming to the hospital is sick and requires special care and attention.

Although some of these old buildings that were built (when to be insane was to be a criminal or an outcast) do not provide facilities for all the late and modern developments of psychiatric therapeutics, still it is a far cry from work of fifty years ago to that of to-day.

To-day we have in Ontario ten institutions, officered by twenty-seven men. Most of these have spent their whole lives in trying to devise new methods for treatment of this particularly difficult class of patient, and also to try and find new ways to brighten and cheer the lives of those who have to live in these places.

Some are young in the work, but others have grown old in it; but all are earnest, all are looking forward to the dawning of a still brighter day, when our institutions will be furnished with all the best modern equipment. Then we will know that the people of this Province realize that the treatment of nervous and mental diseases is of as much importance as the treatment of rheumatism and dyspepsia.—*Bulletin of the Toronto Hospital for Insane.*

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, H. J. HAMILTON, C. J. COPP,
F. A. CLARKSON AND BREFNEY O'REILLY.

Disinfection.

An article appeared in the *Therapeutic Gazette*, July 15th, 1907, by Houghton and L. T. Clark, dealing with formaldehyde disinfection by means of potassium permanganate. They advise the following method: The crystals of permanganate are mixed with 15 per cent. of Portland cement, and water sufficient to give the mixture the proper consistency for forming small briquettes. To 480 c.c. of formaldehyde in a three-gallon metal pail add, say, the briquettes containing 240 grammes of permanganate of potash, and immediate reaction with production of gas ensues. These amounts are considered sufficient to disinfect 1,600 cubic feet of space.

Treatment of Pertussis.

In the *Archives of Pediatrics* for February, 1907, Kilmer suggests a linen abdominal binder with a strip of two-inch elastic webbing inserted on either side, the binder to lace up the back; it should be worn over the undershirt. For infants a width of four or five inches, and children, six to eight inches, is sufficient. It is found to be of the utmost service in many cases, especially with regard to the relief of vomiting. In view of its small cost, it is well worth a trial in every troublesome case.

Influenza Knee.

Franke (in the *Deutsche Zeitschrift für Chirurgie* Band lxxxv.) discusses an arthritis, post-influenzal, which occurs in the chronic agebrile period during which the bacillus remain in the body (the patient is sensitive and liable to "colds," complains of chilly feelings; the anterior pillars and edge of palate are red, while the vault of pharynx and tonsils are unaffected; the tongue shows large red papillæ on a gray background, and the color of the skin has a greyish hue; the heart is dilated, pulse irregular, and the spleen slightly enlarged; there may be harsh sounds over apices of lungs). In addition, the articular changes are characteristic: the small joints of the fingers and knees are

most often affected. The bone is inflamed, and in the fingers the peri-articular tissues also; the tenderness in the case of the knee is typically over the inner condyle; the pain is dull and is considerable disability; the onset is slow and there is little tendency to suppuration or permanent stiffness. Of the various reflexes, the knee-jerk is alone increased. Osteitis, with softening immediately under the cartilage, has been found. Heat, iodides, rest and salicylates are recommended.—Therapeutic Gazette, July, 1907.

Gastric Adhesions.

George Herschell draws attention to gastric adhesion as one of the common, but commonly unrecognized, causes of chronic painful dyspepsia; it is not accompanied by vomiting, pain is uninfluenced by variations in kind of food, but increased by overloading stomach and aggravated by movement, the gastric juice and motive power are normal; test for occult blood in stools is negative, and there is a history of antecedent abdominal inflammation. He advocates subcutaneous injections of fibrolysin (a combination of thiosiamine with salicylate of soda) several times a week for several months, and has noted marked improvement when it has been used. In addition, he enforces reclining position for one hour after meals, abdominal massage, and electricity. Fibrolysin renders scar tissue paler, more tinged and flexible, even after subcutaneous injections. The effect passes off in several hours, but if the dose is repeated permanent results follow. Under the microscope the fibres appear blurred, swollen, and nuclei become more distinct, its action is apparently endosmotic, its results somewhat comparable to Bier's hyperaemic treatment; in poisonous doses in animals general anasarca is noted. In stricture of urethra it may be tried; the tissues are softened, but the canal not dilated and bougies must be used in addition.

Spirachaeta Pallida.

Folet in *Le Tribune Medicale* of May recommends the following stain: Glycerine, gm. 40; acid fuchsin, gm. 2; glacial carbolie acid, gm. $\frac{1}{2}$. Mix and filter after solution. This may be preceded by methylene blue, gm. 2; glycerine, gm. 40; ac. carbolie, gm. $\frac{1}{2}$ to counterstain. In examination of saliva, to a loop of the fresh secretion on a slide add a minute quantity of fuchsin stain, apply cover glass and examine; the counterstain may also be employed. The following solution is suggested as a substitute for Giemsa's: Chloroform, gm. 40; methylene blue, gm. 2; acid fuchsin, gm. 25; carbolie acid, gm. 50; for specimen stain

wash with water or, if necessary, alcohol to remove precipitate and examine.

Diabetes.

Stryzowski and Kuhn are responsible for the following test as an indication of the severity of a given case of diabetes. The reaction is independent of the amount of sugar present. It is not given by acetone, diacetic or axybutyric acids, and is not found in uncomplicated tuberculosis. To the urine add five per cent. of the formaldehyde of commerce (40 per cent.); at the end of 24 to 48 hours a fluorescent greenish tint appears and its presence may be taken to warrant an unfavorable prognosis.

Diabetes Insipidus.

Varanium reports a case in a man aged 27, for 10 years suffering from diabetes insipidus, who passed per diem 8,000 to 10,000 c.cm. of clear, non-albuminous, non-saccharine urine. Adrenalin (P. D. & Co. 1-1000 solution) was administered in seven minimum doses; the condition was apparently greatly relieved.—B. M. J., July 20, 1907.

Sensibility to Vibrations.

R. T. Williams (in B. M. J. of July 20, 1907) has used the tuning-fork in testing for vibrating sensation in diseases of the nervous system. The instrument is one nine inches in length, with five and a half inch prongs. He finds that with loss, or marked impairment of the other forms of sensation, a corresponding loss of sensibility to vibratory stimuli, the chief point of interest is the fact that it is sometimes lost when other sensations are present. He has found this to be true in certain cases of tabe, neuritis, diabetes, spinal syphilis, myelitis and hysterical hemianesthesia. In respect to the last disease mentioned, if the vibrating feeling is lost when the foot of the tuning fork is placed on the edge of the sternum, on the side of the tactile anaesthesia, but felt on the other side, the case is one of functional or malingering; whilst in organic disease the sensation is felt on the edge of the sternum, on the side of the tactile anaesthesia.

OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF ADAM H. WRIGHT, K. C. M'ILWRAITH, FRED.
FENTON AND HELEN MACMURCHY.

Scopolamin-Morphine in Labor.

W. Steffen (*Archiv f. Gyn.*) has observed three hundred cases of labor conducted under the use of scopolamin-morphine injections, at the Krankenhaus at Dresden. Out of 1,335 cases delivered during 1906 only these 300 were thought suitable for this type of narcosis. All cases of contracted pelvis, or that were considered to be likely to have a prolonged labor, were excluded on account of the slowing of the labor pains that is found to be the result of the drugs. There are many of the human species who do not bear scopolamin well; even a small portion of a milligram may produce bad effects. For this reason morphine was added to lessen the mental disturbances and excitation, since it quiets the central nervous system. On the fetus morphine may produce arrhythmia of the heart if too large a dose is given. Morphine alone has been found to have a favorable effect on the contractions when the patient has become exhausted. By giving this drug, and allowing a sound sleep of several hours, the patient is rested, and more regular and stronger pains are produced. At first the injections of scopolamin-morphine were given as soon as the regular labor pains came on, but it was found that the pains were inhibited to a great degree by the drugs, and labor was much prolonged. Injections were then given only at the beginning of the last stage of labor, when the most severe pains are experienced. In favorable cases they make the contractions painless, and these go on more strongly and quietly until delivery is accomplished. The patient has no feeling of pain and no remembrance of the labor, sometimes insisting that she has not been delivered and the child is not hers. The woman is not able to control the abdominal pressure, and it is very difficult to protect the perineum. Pressure on the abdomen may be necessary to aid expulsion, on account of weakness of the contractions. The effect on the friends of the patient of the red, congested face, the restlessness that is sometimes seen, and the inability to rouse the patient to natural consciousness is disagreeable, and hence this form of anesthesia is not well adapted to the delivery of cases in private practice. Another difficulty is that the physician must be present and ready to give

aid during the entire labor, not leaving the patient at any time to the care of the nurse or midwife. The child when delivered does not cry lustily, and is sleepy, and even stupid. This passes away in about ten minutes, but occasions some anxiety. The author concludes that the effect of scopolamin-morphine is not regular, and every case must be carefully watched throughout its course. Its use is not adapted to all cases of labor, and only primiparæ with normal pelves and strong pains should be treated thus. It is not altogether without danger for mother and child, and is not adapted to private practice.—*Amer. Jour. Obstetrics.*

Anesthesia in Labor.

Dr. Frederick Fenton, of Toronto, says, in *Canadian Journal of Medicine and Surgery*: There are few physicians to-day who do not systematically adopt measures for the relief of pain during the latter part of the second stage of labor; but there is not, I think, a general recognition of the advisability and value of the routine use of anesthetics during the first stage of labor.

For the last eighteen months I have followed, as a routine, a plan for the relief or lessening of pain throughout labor, commencing treatment, in the first stage, just so soon as my patient begins to suffer pain of moderate severity, and I am satisfied that such a course is not only humane, but of great value in conserving the strength of the woman, thereby making her ultimate recovery more rapid and complete. Many times patients have expressed themselves as having little recollection of the labor and consequently are without dread of the possibility or probability of succeeding ones.

My first experiments were made with hydrobromate of scopolamine and morphia, which have been used more or less extensively in various parts of the world for the production of general anesthesia with varying success.

There were objections to this combination which led me to abandon it after some half-dozen trials.

There was no question as to its power to control pain, and that without any delay in the progress of labor, but it had an unpleasant effect upon the patients, producing marked vertigo and at times delirium, while one infant was still-born and another only lived about twenty-four hours after birth.

There was no direct evidence that the deaths of the infants were due to scopolamine, but as the second one was delivered after a labor of only four hours' duration, I hesitated to use the drug again.

I could find no record up to that time, nor have I seen any since, of the use of this anesthetic in labor, and abandoned it as unsafe, pending the reports of others who might possibly be using it.

Even though this was not a complete success in all respects, one thing was amply demonstrated, and that was that suffering could be very greatly lessened, and at times completely abolished, without affecting the uterine contractions or the progress of labor.

After abandoning scopolomine, I tried morphia for a short time with some success, but the dose of the drug required was so much greater than when used in combination with scopolomine that it appeared at times to interfere with uterine contractions, hereby simply delaying labor and effecting no real good.

I finally adopted the morphia and hyoscine combination, which one sees so much of in literature of late.

This had been given hypodermically, in doses varying from a sixth to a third of a grain of morphia and one-hundredth to one-fiftieth of a grain of hyoscine, according to what seemed necessary from the severity of the pain, due regard being given to the age and weight of the patient.

The injection is repeated as required in from one to four hours, the patient being kept in a dozing condition so that she is roused by the pains but lapses again into sleep immediately after, and usually without realizing just what has happened.

Even where the pains are severe enough to wake the patient she frequently does not remember anything about it after finally regaining consciousness.

Some patients have slight delirium, but it is not troublesome. They appear to dream, and talk incoherently, but are not in any way unmanageable.

It is best that no injection be given within two hours of delivery, or some difficulty may be met with in getting the baby to breathe satisfactorily at once. In a few instances I have met with some trouble in this respect, but in every case have been ultimately successful.

In order that I may be reasonably certain that there will be no trouble through the baby being born with too much of the anesthetic in its blood, I withhold or materially lessen the dose where the cervix is almost or completely dilated, and if the membranes have ruptured, do not, as a rule, give any.

The plan I am advocating thus far is for the control of suffering during the first stage, and is not applicable to the second

stage, just as chloroform is unsuited for the first, but a veritable God-send in the second, stage of labor.

As to anesthesia in the second stage, I have little to say. Chloroform is the anesthetic *par excellence* in this stage, but after the use of first stage anesthesia the amount of chloroform necessary is very materially lessened. In the early part of the second stage the anesthetics administered in the first stage are still active, so that it is only toward the end chloroform is required.

We have a very powerful instrument at our disposal in these drugs to which I have been referring, but to get satisfactory results they must be properly used, and therefore, at the risk of repetition, I would formulate a few rules, for my own and others' guidance, *pro tempore*, in the further investigation of this matter. I do not consider that all is yet known of the possibilities or limitations of this treatment.

1. The dose should vary in proportion to the severity of the pain and the weight of the patient.

2. It should be used in diminished dose, if at all, after the second stage has begun.

3. It seems better to begin with a moderate or full dose, repeating small doses from time to time, than the reverse.

4. A small second dose following shortly after the first, where pain continues severe, is usually more satisfactory than a larger one at a longer interval.

(A certain amount of confusion has arisen in connection with this treatment. Some say that scopolomine and hyoscine are one and the same drug, while others say that hyoscine is free from noxious elements which are found in commercial scopolomine. One should know that in any case there is some danger, but especially should one remember that unless a pure drug is obtained there is grave danger to both mother and babe. The morphia-scopolomine combination has been largely used in Frieberg, Berlin and Dresden. The views of some (especially Gauss, who reports 1,000 cases) are very optimistic, while those of others in Berlin and Dresden are very pessimistic as to the results. We understand that it is uncertain whether scopolomine or hyoscine has been more used with the morphia on the Continent. The favorite on this side of the Atlantic now appears to be morphia and hyoseine, with perhaps the addition of cactin.—A. H. W.)

Obstetric Practice by Garrigues.

At the last meeting of the American Gynecological, Dr. Brooks H. Wells delivered an address on the work of Dr. Henry J.

Garrigues, in introducing asepsis into obstetric practice in New York, from which we extract as follows (*Amer. Jour. of Obstetrics*):

In 1881 the mortality at the New York Maternity Hospital was thought to be very low, as it was only 2.36 per cent. In 1882 it had risen to 3.25 per cent. In the first nine months of 1883, with 345 deliveries, 30 women died and the serious morbidity was enormous. In September the conditions were at their worst. Ten of the women delivered during the month died, about one in four, and the survivors escaped miserably with their lives.

At this time (October 1) the rotation of service brought Dr. Henry J. Garrigues again in charge. In the fullness of maturity, energetic, thoughtful, calm, he proved to be the man superior to the emergency. Appalled at the frightful conditions, he had already formulated and at once carried into effect a detailed plan for driving out the pestilence. This plan was original in its detail, showed a broad comprehension of the principles of asepsis, was brilliant in its achievement, and of far-reaching influence on the practice of obstetrics. In brief it was this:

Rapid alternation of wards was secured, so as to allow frequent fumigation with sulphur, followed by scrubbing with soap and water and by a 1-1000 bichloride solution. Fresh bedding was furnished at each change. The floors were sprinkled four times daily with the bichloride solution. All visitors were rigorously excluded. Doctors and nurses employed in the maternity were not allowed to enter the other hospital wards or the dead house. The patient had a bath and clean linen beforehand, and on entry to the delivery room the abdomen, genital region, buttocks and thighs were washed with soap and water and then with bichloride solution. The vagina was irrigated with two quarts of the solution from a glass fountain syringe with glass nozzle. The rubber sheet on the delivery bed was frequently renewed and washed before each delivery with a 1-1000 solution.

No vaginal examination was allowed except after the hands had been thoroughly scrubbed with soap, hot water and a stiff brush and soaked in a hot 1-1000 bichloride solution.

When the head appeared at the vulva a piece of gauze soaked in the bichloride solution was applied and kept there. After the expulsion of the child the genitals were kept covered by a similar compress. The placenta was expressed by Credé's method so that it might not be necessary to introduce the finger inside the vulva. If it was necessary to introduce the finger to remove placenta or membrane, the vagina was washed out, otherwise not.

Intrauterine injections were used only when the hand or in-

struments were introduced into the cavity of the uterus, or after the birth of a macerated child. After the expulsion of the placenta the vulva and adjacent parts were washed with the solution and the vulva covered with a large gauze compress wet with the solution. Before each washing the nurses disinfected their hands as before labor. No vaginal injections were used except in fetid lochia. Every substance brought in contact with the genitals was soaked beforehand in the solution.

There are some of you who may remember the ridicule or skepticism that greeted the announcement of these measures; there are many more of you who remember how the pestilence gathered its terrors to itself and fled away in a night—and it has never returned.

On December 21, less than three months later, Garrigues, in reporting the result of his work, was able to say: "The effect of the treatment has been wonderful. As if by magic all trouble disappeared. Ninety-seven women have been delivered since its introduction, and not only has none of them died, but there has scarcely been any disease among them—only three had any rise of temperature. The pavilions are scarcely recognizable. Where we used to have offensive odors, feverish, prostrated or despairing patients, overworked nurses, and despondent doctors, the air is pure, the patients look well, their temperatures are normal, the nurses are cheerful, and the doctors happy."

(We have much pleasure in stating that we in Toronto appreciated very highly the work to which Dr. Wells refers, and some of us feel deeply indebted to Dr. Garrigues for valuable lessons learned respecting the prevention of puerperal sepsis.—A. H. W.)

PSYCHIATRY.

IN CHARGE OF DR. J. G. FITZGERALD,
Clinical Director and Pathologist, Toronto Asylum.

The Morbid Anatomy of Mental Confusion.—New York Medical Journal, August 3rd, 1907.

In this editorial, the more recent views in regard to certain etiologic factors and the post-mortem findings in cases of *Confusion Mentale*, are enunciated.

That there is a definite change in the cortical cells has been known for some time, but the exact nature of the pathologic process has been more recently cleared up; that chromatolysis, swelling of the cells, and the eccentric displacement of the

nucleus may all be found in certain other conditions must not be lost sight of, so that while one may expect to find these alterations in the cortex cerebri in cases in which the clinical features have been clear, they are not going to be of special value in the histological diagnosis. This fact is not as strongly emphasized as it might be.

The cases of *Confusion Mentale* in which there has been some local disorder are spoken of, and incidentally the old question of the relief of pelvic conditions bringing about a cure of the psychosis is reviewed. That all physical disorders, wherever located, should receive every possible attention, goes without saying, but that there is any definite relation between the cortical changes in these cases and the etiologic factors presumed by the writer of the article to be those of the most significance, has not always stood the test.

This much can be said that certain cases, provisionally called *Confusion Mentale*, show fairly definite clinical features, viz., disorders of apperception (lesions on the psycho-sensory side of Wernicke's reflex-arc) and consequent disorientation with obscuration of consciousness, memory defects (chiefly in retention and reproduction of new impressions), disorders of attention and volition, and possibly a rise of temperature. That this symptom may be complicated or even caused by the presence of a local disorder must always be kept in mind, and should be looked for.

Psycho-Epilepsy.—Sir William Gowers, Review of Neurology and Psychiatry, July, 1907.

In an extremely brief article, of less than three pages, Sir Wm. Gowers speaks of certain psychic equivalents which are of decided interest.

He mentions several cases in which emotional disturbances (usually a depressive feeling tone) lasting for a short time were the sole manifestations of the neurosis. The sudden, abrupt onset, the periodicity of the attacks and quick termination, in a few minutes, left no doubt as to the nature of the condition.

Cases in which volition was chiefly disturbed, a condition of abulia persisting for a short time, are also of the utmost interest, and still another case in which the disorder was chiefly intellectual, causing a disturbance in the train of thought.

That psychic epilepsy should be limited in its activities to mere disturbances of consciousness does not seem plausible, and Sir Wm. Gowers, in this altogether too brief article, emphasizes

certain other conditions which require more consideration than they have yet received.

Abnormal Psychology.

That the realm of abnormal psychology is every day attracting more attention, and that as a consequence more exact and searching analyses into the nature of certain pathologic manifestations are being made, requires no further mention. In so many instances, the question of diagnosis, and possibly etiology, only have been touched on, and it is quite rarely that any suggestions are thrown out as to prophylactic measures or modes of treatment. For this reason the proceedings of the New York Psychiatrial Society for March 6th, 1907, as reported in the July number of the *Review of Neurology and Psychiatry*, are of more than passing interest.

The paper of the evening was read by Dr. August Hoch, and he chose for his subject "The Psychogenetic Factors in Some Paranoid Conditions, with Suggestions for Prophylaxis and Treatment."

A theory as to the development of the paranoid ideas is at first formulated, and it is briefly this: that each individual has trains of thought or complexes that are associated with considerable depth of affect-tone. The nature of these complexes is thought by Dr. Hoch to be of an autopsychic character, and are determined possibly by feelings of insufficiency, unworthiness, etc., or even shame and remorse; others are associated with vague feelings of unrest, representing an undercurrent of longing or desire.

That these various complexes are abnormal is not the assertion of the author, but the inability of the individual "to adjust," "to get square" with these troublesome complexes, is the first step in the evolution of the disease process. Normal, healthy minds have these adjustment processes going at all times, perhaps by directing the train of thought in other channels, or possibly by the sinking below the threshold of consciousness of the troublesome complexes because of lack of depth of feeling-tone.

In the cases that do not adjust, however, the ideation tends to become more egocentric and spontaneous, thought production is almost entirely of a vague persecutory character, and finally, when the "undercurrents" are of a similar character and rise to the threshold, judgment becomes defective and well-developed delusions of persecution are the result. The prophylactic measures naturally consist, in as far as possible, developing healthy habits of adjustment (whether by the influence of some stimu-

lating outside interest or by a suitable course of psycho-therapeutics), whereby the disturbing complexes and associated feelings sink more deeply into the subconscious and are much less likely to interfere with the healthy thought processes. Factors that might possibly cause a *locus resistentie minoris* are naturally to be avoided or carefully guarded against. Amongst these are: alcoholic excesses; Lues; undue strain at physiologic epochs, such as the menopause, and so forth.

Such suggestions as these of Dr. Hoch are of the utmost value and deserve every consideration, because it is well known that once fully developed, paranoid conditions are most intractable; therefore any means which will aid these possibly prospective patients to more readily fit into their environment is of inestimable value.

Confessions of a Psychasthenic.—By Rev. A. Kammeier, Iowa City, *Journal of Abnormal Psychology*, August-Sept. 1907.

This article is really a verbatim account of certain features in the development of the mental life of one of the author's congregation, published by his permission, after his demise.

As a fascinating account of the insidious growth of certain pernicious habits of mind in a morbidly disposed individual, this article really stands very high.

The gradual evolution of the budding intellect and the extreme depth of the almost pathologic, depressive feeling-tone determined by unnatural "pietistic" influences; are worthy of perusal by all who have to do with the immediate direction of the child-mind in Sunday schools and other similar institutions, whose teachings and influences are almost entirely responsible for the consequent shaping of the deepest and most perplexing element in the realm of adult intellectual activities, and the one which neither religion, philosophy nor science alone will serve to completely satisfy.

The unsuccessful attempt of a religious parent and the pathetic result seen in the autobiography of one haunted by every doubt and fear known to the victim of psychasthenia, render this article well worthy of perusal. It merits more than passing consideration. The simple dismissal of the subject by the comment that it was merely a case of sensitive mind too open to suggestion becoming unhealthy, is not sufficient; any intellect, however strong and well developed, at an early period in its development may be unable to withstand certain assaults. The physiological capacity to adjust, here, as elsewhere, is not a uniform amount in every individual, which fact religious instructors of the youthful would do well to remember.

Editorials.

MATRICULATION IN MEDICINE.

At a recent meeting of the physicians of West Toronto, under the Chairmanship of Dr. J. S. Hart, the member of the Medical Council for this district, a motion to raise the standard of matriculation to graduation in Arts, was not considered to be within the province of the meeting, and was therefore withdrawn.

This is, of course, an old suggestion which has been much discussed, and should now be very carefully considered. A course in Arts is a very indefinite thing, and is not always—perhaps not generally—suitable for a young man intending to study medicine.

Our boys at the public schools should be taught English in the first instance. They should be taught especially to read and write and spell. Many men in our graduating classes in medicine can neither read, write nor spell properly. In addition to history, geography and mathematics, which should be taught subsequently to, or to some extent concurrently with, English, classics, modern languages, and experimental science, should be included in the course of studies.

We desire to call attention to a very important course which is given in the University of Toronto, which is well adapted for the student in medicine. We give the description of this course as it appears in the University Calendar :

“The special attention of students entering medicine is directed to the recent enactment of the University Senate instituting a new curriculum in science leading to the degree of Bachelor of Arts. This course, entitled the honor department of Biological and Physical Sciences, is specially adapted for students who intend entering eventually upon medicine, and embraces the purely science subjects which are demanded of students in the primary years of medicine. It will therefore be possible in the future for a candidate who has obtained his Arts degree in this course to enter immediately the third year of medicine, and he

will be qualified to present himself for the degree of Bachelor of Medicine two years after graduating in Arts. In other words, it is possible for one to obtain the degree of Bachelor of Arts and Bachelor of Medicine after six years' study at the University.

“The very great advantages of this course to a student entering medicine are obvious. The preliminary science subjects of the course in medicine are taught in much greater detail in the Arts course, as in the latter is included advanced laboratory and experimental work, such as is not required in the purely medical course of studies. Further, the student is required to become proficient in modern languages, an acquirement which is of great value to the student of modern scientific medicine. This new course not only affords opportunity for wider culture and greater scientific attainments than is possible in the more limited four years' course in medicine, but it fits one for a much wider field of usefulness after graduation. The graduate who has taken the science course in Arts, and subsequently that of medicine, is qualified to devote his life to the purely scientific side of medicine if he should so elect, after leaving the university, and, moreover, he is undoubtedly better fitted to practice his profession should he desire to prepare himself for that alone.”

VICHY.

A visit to Vichy, which is possibly the best-known of all the health resorts of France, was so timed as to enable us to be present when the official season opened on the 15th of May. To Dr. Felix Fau, a consulting physician, and Mr. G. Seneret, one of the directors of the State-owned springs, we are indebted for many courtesies and the opportunity of making personal investigations regarding the various springs and the uses to which these renowned gaseous alkaline waters are put in the treatment and alleviation of many pathological conditions. The members of our profession there whom we met were kindly and friendly, exhibiting high scientific attainments and a charming tolerance of the rather indifferent brand of French language imported from Toronto.

Vichy is situated in the departement of the Allier, in a beau-

tiful valley of the river of that name, about six hours by train south from Paris, and thirty-two miles south-east of Moulins. It was once a place of strength, and has been celebrated for its "cures" since Roman times. In 1853 the Government gave the right of exploiting the springs to a company. In 1862 there were 17,401 registered visitors, and the number has increased rapidly, last year mounting up to 98,000.

There is an excellent medical library open not only to the resident, but also to visiting physicians, where are to be found numerous works on climatology, health resorts and mineral springs, as well as the current medical literature.

At the present day the action of the waters is being studied scientifically, with, it is said, increasing benefit to the sick who visit this spa. The doctors recommend patients to begin with reserve, drinking one glass in the morning and another in the afternoon, then increasing gradually according to the case, from four to five glasses, but rarely more than a pint a day—although in earlier times the ordinary dose seems to have been twelve glasses.

The chief springs in the possession of the State are nine in number. "Celestins" owes its name to the convent and juts out from a pile of rocks which served as the foundation of the old Vichy and gives birth also to the spring "L'Hospital." Its output is about 50,000 pints in twenty-four hours. The water contains considerable carbonic acid, with bicarbonate of sodium, potassium, magnesium and strontium; it is fresh and sparkling, and recommended for gout, rheumatism and diabetes, as well as other affections. The name "Le Grande-grille" comes from a large iron grating which formerly protected the spring from animals. There is a circular basin in the centre, into which the water gushes and bubbles because of the subterranean pressure of the great amount of carbonic acid gas with which the spring is charged. In order to keep the water from contact with the air, the basin has been hermetically closed by means of glass. There is a large output both for drinking and baths. It is used most of all in affections of the liver. The waters from the spring "L'Hospital" are reputed to be effective in cases of gastric embarrassment, while "Chomel" is prescribed for those whose respiratory

organs are affected. "Lucas" has a very large output, 200,000 pints, which is moderate in temperature and used chiefly for baths, particularly for those suffering from skin diseases. In the neighborhood of Vichy, at Cusset, is the spring "Mesdames," somewhat ferruginous, and seems to be specially indicated in cases of debility and anæmia, while the "Andreau" waters are employed in renal, genito-urinary and uterine disturbances.

It would seem that the waters of Vichy, rather than being laxative and debilitating, as was formerly thought, are bracing and produce constipation.

Outwardly, in the baths, the waters of Vichy rid the epidermis of all the fatty materials which are deposited there. To this is joined the stimulus given to the skin by the mineral elements in the water and the gas which it contains. As a result of this double action, a keener impulse is given to the circulation. Taken inwardly, the result is chiefly a cleansing of the passages in a manner analagous to the external effect produced by the baths. There is a more abundant production of gastric juice in the stomach, and this is revealed first by a considerable increase of appetite, a feeling of general revivification, and a power of resisting fatigue. The waters act less as medicines than as rebuilders charged with rendering back to the system a proper performance of organic life. Their action is lasting, because they do not remove merely the symptoms of disease, but its causes, that is, the lack of nutrition which gave it birth.

The town is well provided with the usual accessories of a spa. Its climate and amusements are not very unlike those of Paris.

W. H. B. A.

THE CHAIR OF ANATOMY UNIVERSITY OF TORONTO.

There was a general consensus of opinion that Dr. Alexander Primrose was a good teacher and a good head of the important department of anatomy. There was probably a universal feeling of regret in University circles when his retirement from the professorship was announced. Fortunately he remained long enough

at his post to prepare and gather together an excellent lot of specimens, and he leaves behind him in the department one of the finest anatomical museums in the world.

There are still many, even in these modern days, who think that a man who has a practical knowledge of surgery is likely to prove a better teacher of anatomy for medical students than one who has no such knowledge. It was Dr. Primrose's good fortune from his early student days to have studied the scientific and practical together, and we have no doubt that this fact had much to do with efficiency as a teacher.

The announcement of the appointment of Dr. J. Playfair McMurrich to the place of Dr. Primrose was not received with any marked enthusiasm in certain quarters. Many would have preferred one of our comparatively young graduates who knew both surgery and anatomy. Dr. McMurrich is, however, very popular with many of those who know him most intimately. He is a faithful, scientific worker, and has earned a high reputation in the United States as an original investigator, author and teacher. He is a Canadian, and belongs to the McMurrich family of Toronto, whose members are sturdy friends of the University of Toronto.

DR. FALCONER IN HALIFAX.

A large number of the citizens of Halifax assembled on the evening of August 16th in honor of Dr. Falconer, the President of the University of Toronto, and presented him with a magnificent solid silver service and a gold watch. Among those who took a most active part, and delivered laudatory speeches, were Archbishop McCarthy (Roman Catholic), Bishop Worrell (Church of England), the Lieutenant-Governor of Nova Scotia, the Premier of Nova Scotia, the Deputy Mayor of Halifax, Judge Snider, of Hamilton, and representatives of the various universities and colleges of the Maritime Provinces.

It was a wonderful, and perhaps, so far as Canada is concerned, unique tribute to a man so young as Dr. Falconer. The highest and best of the land of all classes and all sects were present, and

in eloquent and affecting terms testified as to his "outstanding ability, strong personality, and his uplifting influence in the life of Halifax and Nova Scotia." The indications are that the new President is a strong and broad man.

THE EXETER MEETING.

The meeting of the British Medical Association in Exeter, an old town of beautiful Devonshire, is now a thing of the past. There were present from Canada: Dr. Birkett and Prof. Starkey, of Montreal; Drs. Temple, Reeve, Oldright, Baines, Cameron, Mayburry, Bruce, Starr, Doolittle, and Helen MacMurchy, of Toronto; Dr. Atherton, of Fredericton, New Brunswick; and Dr. Burt, of Paris, Ontario. The British Medical Journal tells us, as usual, that it was "one of the most useful and interesting meetings in the history of the Association." It is generally conceded that all the meetings of this Association are interesting, but very seldom is a meeting held in a place and district so interesting as Exeter and Devon and adjacent towns and shires. The Canadians present appear to have enjoyed everything on the programme.

The place of meeting next year will be scarcely less interesting than Exeter. In the words of the Chairman of the Council, the Association will "move from the sunny south to the bleak wilds of the north," and hold the meeting of next year in Sheffield, Yorkshire, under the presidency of Mr. Simeon Snell. Sheffield, noted for its cutlery, contains other things besides knives and forks—especially a modern university, in the buildings of which the meeting will be held. The city has a population of about 400,000, and is progressive in all respects. It is situated about 60 miles east of Liverpool, and the visitor from Canada or the United States who lands at Liverpool may go (fifteen miles) to the interesting, old walled town of Chester, and then to Sheffield. There are some very interesting places in the neighborhood, especially in Derbyshire, immediately south, such as Buxton (noted for its baths, 27 miles from Sheffield); Chatsworth, the magnificent seat of the Duke of Devonshire, Haddon Hall, Matlock Bath,

etc. One can then go down to Coventry, Kenilworth, Warwick, and Stratford-on-the-Avon; then to Oxford (everyone who goes to England should see Oxford); then to London.

American Medical Editors' Association.

The 39th annual meeting of this society was the most successful in point of attendance and general interest ever held. The rapid increase in membership is an assurance that in the future the meetings of the American Medical Editors' Association will be an important feature annually. Sixty-four new members were elected. The papers presented were of unusual interest, were thoroughly discussed, and will appear in the form of a bound transaction early this fall. The papers read were as follows:

The Future of Medical Journalism, by James Evelyn Pilcher, M.D., President.

Shortcomings of Physiology the Chief Obstacle to Medical Progress, by C. E. DeM. Sajous, M.D.

How Can We Make Medical Journalism Better? (a) For Our Readers; (b) For Our Advertisers; (c) For Ourselves. By W. C. Abbott.

A Word or Two from an ex-Journalist, by Samuel W. Kelley, M.D.

The First Medical Journals, by O. F. Ball, M.D.

Twenty-five Years of Medical Editorship, by Stephen Lewis Pilcher, M.D.

The Psychology of Medical Journals from the Reader's Standpoint, by T. D. Crothers, M.D.

Further Reflection on the Official versus Independent Medical Journals, One Year's History, by W. J. Robinson, M.D.

The Situation, by C. F. Taylor, M.D.

Some Aspects on Medical Journalism, by W. F. Waugh, M.D.
Subject Not Announced, by J. J. Taylor, M.D.

A Few Feeble Remarks, by W. A. Young, M.D.

Medical Abstracts and Their Relation to the Medical Journal, by Mary M. S. Johnstone, M.D.

The American Medical Editors' Association, Past, Present and Future, by Joseph MacDonald, Jr., M.D.

CANADIAN MEDICAL ASSOCIATION.

The 40th annual meeting will be held at Montreal, Sept. 11th 12th, 13th and 14th. Purchase single first-class ticket to Montreal and get at the same time, from ticket agent, standard convention certificate. No certificate required from General Secretary.

The Canadian Pacific Railway, the Grand Trunk Railway, the Intercolonial Railway, all lines in the Eastern Canadian Passenger Association, and the Richelieu & Ontario Navigation Company and Canadian Northern Railway, are included in the transportation arrangements. Delegates from points west of Fort William will be permitted to use the Upper Lake route, Fort William to Owen Sound, or *vice versa*, on extra payment of \$4.25 one way or \$8.50 both ways, when travelling on the Standard Certificate plan. Passengers going by rail, returning Richelieu & Ontario Navigation Company, or *vice versa*, rate to be one and one-half fare. Tickets will also be honored via R. & O. Nav. Co., on presentation of rail excursion ticket to the ticket agent at Toronto, or to the purser on board steamer, and payment of the following arbitraries, viz., \$6.65, Toronto to Montreal; \$3.50. Kingston to Montreal.

Those desiring to tour should consult with their local railway agents as to tourist tickets.

COMPARATIVE SCHEDULE OF TRANSPORTATION RATES TO MONTREAL.

Windsor	\$15.00
Chatham	14.75
London	12.95
St. Thomas	12.75
Woodstock	12.10
Galt	11.60
Toronto	10.00
Guelph	11.45
Hamilton	10.65
Peterboro'	7.85
Ottawa	3.35
Kingston	5.30

The meeting place will be the McGill University Buildings. The general meetings will be held in Molson Hall, the Medical Section in the lecture room of the Redpath Museum, and the Surgical and Pathological Sections in the lecture rooms of the Arts Building.

The railway officer at Montreal, when exchanging Standard

Convention Certificate for return transportation, will collect from each, for visiting the same, a fee of twenty-five cents.

Delegates desiring to have hotel or lodgings reserved for them should apply to the Local Secretary, Dr. Ridley Mackenzie, 192 Peel street, Montreal.

There is to be a garden party at Terrace Bank, through the kindness of Dr. and Mrs. Roddick; a smoking concert in the Victoria Armory; a reception after the President's address the first evening, in the Students' Union Building; a drive and luncheon at the Hunt Club for the ladies, golf matches, etc.

During the meeting of the Canadian Medical Association, as usual, the annual meeting of the Canadian Medical Protective Association will take place. Dr. R. W. Powell, Ottawa, the President of the C. M. P. A., will deliver the annual address and present the annual report.

There will also be a meeting of Canadian Military Surgeons, an organization which the Director-General of the Army Medical Service, Lieutenant-Colonel Carleton Jones, M.D., is promoting.

Full discussion will take place on the report of the Special Committee on Reorganization. For this reason alone there should be a large and representative delegation from each Province.

ADDITIONAL INFORMATION.

Additional information of a local character may be obtained from the Local Secretary, Dr. Ridley Mackenzie, 192 Peel street, Montreal; any general information from the General Secretary, Dr. George Elliott, 203 Beverley street, Toronto.

PROVISIONAL PROGRAMME.

Presidential Address—Dr. A. McPhedran, Toronto.

Address in Medicine—Dr. Davy Rolleston, London, England.

Address in Surgery—Dr. Ingersoll Olmsted, Hamilton, Ont.

Address in Pathology—Dr. J. George Adami, Montreal

Discussion in Medicine—Cerebro-spinal Meningitis, introduced by Dr. J. J. Mackenzie, Toronto; Dr. H. A. Lafleur, Montreal; Dr. A. D. Blackader, Montreal.

Discussion in Surgery—Hypertrophy of the Prostate: Etiology and Pathology—Dr. G. E. Armstrong, Montreal. Symptomatology and Diagnosis—Dr. F. N. G. Starr, Toronto. Treatment—Non-surgical, ; Operative—Dr. James Bell, Montreal.

Section of Laboratory Workers. The following have promised papers: Dr. G. W. Ross, Toronto; Dr. Gibson, Kingston; Dr. Rankin, Montreal—Reporting work on *Opsonius*. Dr. J. J.

Mackenzie, Toronto—Generalized Blastomycosis. Dr. Campbell Howard, Montreal—A Study of the Eosinophile Cells of the Blood. Dr. McKee, Montreal—On Retinosis Pigmentosa. Dr. Dixon, Toronto—On the Significance of the Glomerula Changes in the Kidney. Dr. J. McCrae, Montreal—The Neuroses in the Liver in Eclampsia and other Diseases. Dr. Tooke, Montreal—On Injuries of the Cornea. Dr. Klotz, Montreal—The Lesions in the Media of the Arteries.

PAPERS.

Listerism—Dr. A. H. Wright, Toronto.

Seven Hundred and Fifty Abdominal Sections, and the Lessons They Have Taught Me—Dr. A. Laphorn Smith, Montreal.

Comparative Anatomy of the Fundus Oculi, with Lantern Illustrations—Dr. G. Sterling Ryerson, Toronto.

A Case of Primary Bilateral Mastoiditis—Dr. Perry G. Goldsmith, Toronto.

Title to be Announced—Dr. Gordon Byers, Montreal.

Notes on Tubercular Bacilli Isolated from Fatal Cases of Primary Cervical Tubercular Adenitis—Dr. Duval, Montreal.

Bacteræmia Colon, its Diagnosis and its Diagnostic and Prognostic Value—Dr. Fraser Gurd, Montreal.

Cancer of the Breast—Dr. George E. Armstrong, Montreal.

Modern Methods in Diagnosis of Tuberculosis of the Kidney—Dr. R. P. Campbell, Montreal.

Clinical Side of Ectopic Pregnancy—Dr. W. W. Chipman, Montreal.

Danger Signals in Anæsthesia—Dr. Samuel Johnston, Toronto.

Psychology of the Sick Room—Dr. John Hunter, Toronto.

Paresis: Certain Features in Regard to the Etiology and Differential Diagnosis—Dr. John G. Fitzgerald, Toronto.

The Normal Temperature—Dr. R. D. Rudolf, Toronto.

The Rights of Children—Dr. C. J. C. O. Hastings, Toronto.

The Defensive Action of Products of Metabolism—Dr. Graham Chambers, Toronto.

Treatment of Neurasthenia—Dr. E. C. Burson, Toronto.

Papers are also expected from the following: Dr. Connell, Kingston; Dr. Keenan, Montreal; Professor Harrison, St. Anne de Bellevue; Dr. A. W. Moody, Winnipeg; Dr. W. F. Hamilton, Montreal; Dr. F. G. Finley, Montreal; Dr. C. F. Martin, Montreal; Dr. Colin Russell, Montreal; Dr. Campbell P. Howard, Montreal; Dr. A. G. Nicholls, Montreal; Dr. Ridley Mackenzie, Montreal; Drs. Lyman and D. A. Shires, Montreal; Dr. B. W. D. Gillies, Vancouver; Dr. A. H. Gordon, Montreal; and from

Drs. Lowrey, H. B. Anderson, H. C. Parsons, W. B. Thistle, R. J. Dwyer and A. R. Gordon, Toronto.

When and How to Resume Normal Feeding in Convalescence from Typhoid Fever—Dr. J. T. Fotheringham, Toronto.

Dr. Maud E. Abbott, Montreal, will present an exhibition of Pathological Specimens from the McGill Medical Museum, illustrating the Circulatory System.

Prof. J. J. Mackenzie, Toronto, will also exhibit Pathological Specimen.

Dr. Robert Wilson, Montreal, will give an exhibition of X-ray plates from the different hospitals.

The Occurrence of Congenital Adhesions in the Left Common Iliac Vein—Dr. J. Playfair McMurrich, Toronto.

Sigmoiditis and Diverticulitis of the Rectum—Dr. D. A. L. Graham, Toronto.

Ample accommodation has been provided in the Arts Building, Peter Redpath Museum, the Physics Building, and the McGee Union. The lecture halls are provided with lanterns, and it is hoped papers will be illustrated by this means. Interesting clinical material will be shown at the Royal Victoria Hospital, Montreal General, Notre Dame Hospital and the Hotel Dieu on the mornings of the meetings at 8.30.

The Academy of Medicine, Toronto.

The following are the officers recently elected: President, Dr. J. F. W. Ross; Vice-President, Dr. Alex. McPhedran; Secretary, Dr. H. J. Hamilton; Treasurer, Dr. D. J. Gibb Wishart. Members of Council—Mr. I. H. Cameron, Dr. J. T. Fotheringham, Dr. Herbert Bruce, Dr. F. N. G. Starr, Dr. E. E. King, Dr. R. A. Reeve, Dr. W. P. Caven, Dr. H. B. Anderson, Dr. John Amyot, Dr. A. A. Macdonald, Dr. R. J. Dwyer, and Dr. R. D. Rudolf. Section on Surgery—Dr. N. A. Powell, Chairman; Dr. Shuttleworth, Editor; Dr. H. A. Beatty, Secretary. Section on Medicine—Dr. W. J. Wilson, Chairman; Dr. John Ferguson, Editor; Dr. Harley Smith, Secretary. Section on Pathology—Dr. W. Goldie, Chairman; Dr. Stanley Ryerson, Secretary; Dr. Hutchison, Editor.

Personals.

Dr. Murray McFarlane returned from Europe to Toronto and resumed practice August 12th.

Dr. T. A. Swift has been appointed Medical Superintendent of the Western Hospital, Montreal.

Dr. A. H. Perfect, of Toronto Junction, has been appointed Associate Coroner for the County of York.

Dr. W. C. Shier has gone into partnership with Dr. Horace Baseum, of Uxbridge. Dr. Baseum left Uxbridge for Cuba July 22nd.

Miss Lawler, late Assistant Lady Superintendent of the Toronto General Hospital, has been appointed Superintendent of the Memorial Hospital, Niagara Falls, N.Y.

Dr. F. N. G. Starr, 112 College street, Toronto, desires to announce to the medical profession that after September 1st, 1907, he will devote his attention to surgery and consultation in surgery.

Dr. Harvey Clare (Trin., '96), for some time Assistant Physician, Brockville, and for the last year Assistant in Toronto Asylum, has been appointed Assistant Medical Superintendent of the Asylum for Insane in New Westminster, B.C.

Dr. Herbert A. Bruce, who left Toronto on a holiday tour, June 25th, went first to London and then to Paris, Berne, and Munich, where he visited hospitals. After a hurried trip through Italy, he returned to England in time for the Exeter meeting. He then came back to Canada and resumed practice August 27th.

Drs. Temple and Baines sailed from Quebec for England June 29th. After a short stay in London they travelled leisurely through the south of England and reached Exeter in time for the meeting. After a short visit to Cornwall, they went north to the Windermere Lakes, and then back to London, August 17th. They expected to leave London for home August 24th.

Dr. John Malloch returned to Toronto August 1st, after a prolonged course of post graduate work, especially in anatomy, surgery and pathology, in London. After taking his F. R. C. S. early in 1906 he had no very exalted opinion about himself, and thought he might still learn something. He consequently again settled down to work, which he continued for about fifteen months.

At the recent inaugural meeting of the Canadian Hospital Association, the following were elected officers for the year 1907-8: President, Miss Louise Brent, Hospital for Sick Children, Toronto, Ont.; First Vice-President, Dr. C. K. Clarke, Hospital

for Insane, Toronto, Ont.; Second Vice-President, Dr. A. D. McIntyre, General Hospital, Kingston, Ont.; Third Vice-President, Mr. W. W. Kenny (for Maritime Provinces), Victoria General Hospital, Halifax, N.S.; Fourth Vice-President, Mr. H. E. Webster, Royal Victoria Hospital, Montreal, P.Q.; Fifth Vice-President, Mr. A. L. Cosgrove, Winnipeg General Hospital, Winnipeg, Man.; Secretary, Dr. J. N. E. Brown, Toronto General Hospital, Toronto, Ont.; Treasurer, Miss E. McL. Patton, Grace Hospital, Toronto, Ont.

Obituary.

JAMES ROSS, M.D.

Dr. James Ross died recently at his home, Dundas, of pneumonia. He graduated B.A. in 1878, and M.D. in 1881, from McGill University. After graduating he spent about a year in London, and became an L.R.C., Lond. After his return from England he commenced practice in Dundas, and was quite successful and highly respected. He took considerable interest in military matters, especially in rifle shooting, and was twice a member of the Canadian team at Wimbledon.

JAMES BRIEN, M.D.

Dr. Brien, of Essex Centre, died August 9th. His health had been poor for some time, but the end came sooner than was expected.

SIR WILLIAM TENNANT GAIRDNER, M.D.

Sir William Gairdner, the great physician and teacher of medicine in Glasgow University, died in that city, June 28th.

We are told by the British Medical Journal, that for some years he had presented the typical symptoms of Stokes-Adams disease, and for five years he had a pulse rate of 20 to 28 a minute, which occasionally sank lower.

In the afternoon he had received one of his oldest friends with his usual cheerful serenity, and after bidding him good bye, laid down on a sofa with a book. Less than an hour afterwards he was found to be dead, having probably passed away in his sleep. He was 83 years of age, and had retired from his professorship of medicine in the University of Glasgow eight years ago.

Book Reviews.

A TEXT-BOOK OF PRACTICAL THERAPEUTICS. With especial reference to the Application of Remedial Measures to Disease, and Their Employment upon a Rational Basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Twelfth Edition. Enlarged, thoroughly revised and largely rewritten. Illustrated with 114 engravings and four colored plates. Lee Brothers & Co., Philadelphia and New York. 1907.

"When called to guide a patient through an illness, the physician should be constantly a watchman, and a therapist only when necessity arises.

"A good physician is one, who, having pure drugs, knows when to use them, how to use them, and, equally important, when not to use them. When a physician gives a drug, and the patient improves, care should be taken not to ascribe all the good results to the remedy employed. Nature must be given credit for a large part of the improvement."

Since the appearance of the eleventh edition of this book, eighteen months ago, it has been necessary to reprint it on three occasions, a fact which would seem to indicate that the text continues to meet the needs of practitioners and students. In presenting the twelfth edition the author wishes to state that he has thoroughly revised it, and in many ways endeavored to increase its usefulness. More complete information is given as to Materia Medica than ever before, and a considerable number of the recent advances in therapeutic procedure have been introduced. Thus, the value of citrate of sodium in the feeding of bottle-fed babies, the use of calcium lactate, hypodermically and by the mouth, in haemophilia, urticaria, and oozing hemorrhage is discussed. More information is given as to the best methods of treating syphilis by the hypodermic injection, and the importance of using saline solutions of exact strength for intravenous injection is emphasized. So, too, the value of citric acid for preventing thrombosis in typhoid fever is considered, as is the important subject of the danger of toxæmia after the use of chloroform and ether.

A very considerable number of drugs which have been introduced during the last two years, or which, having been introduced but a short time when the eleventh edition appeared,

did not seem worthy of mention, but which have since proved their usefulness, are discussed.

The author is also glad to state that through the courtesy and kindness of Dr. G. E. de Schweinitz, Professor of Ophthalmology in the University of Pennsylvania, the articles upon the treatment of the common diseases of the eye have been carefully revised. So, too, Dr. Barton Cooke Hirst, Professor of Obstetrics in the University of Pennsylvania, has revised the articles on the Treatment of Diseases of the Puerperal Period, and Dr. Edwin Martin, Professor of Clinical Surgery in the University of Pennsylvania, has revised the articles upon Antisepsis, Gonorrhoea and Syphilis. It is also, perhaps, worthy of note that since the appearance of the eleventh edition this book has been translated into the Italian and Chinese languages.

II. A. II.

TICS AND THEIR TREATMENT. By Henry Meige and E. Feindel. With a preface by Prof. Brissand, translated and edited, with a critical appendix by S. A. K. Wilson, M.A., M.B., B.Sc., Resident Medical Officer National Hospital for the Paralyzed and Epileptic, Queen Square, London. London, Sidney Appleton. 1907.

The authors of this interesting volume first devote their attention to defining what "a tic" is—a word used very loosely on this continent, and usually applied here to mean any kind of a spasm. The various tics are carefully described, and suitable methods of treatment are outlined for each. The work is very readable, and one we can heartily recommend.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Emory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, of Philadelphia; assisted by H. R. M. Landis, M.D., visiting physician to the tuberculosis department of the Philadelphia Hospital. Vol. II. June, 1907. Lea Brothers & Co., Philadelphia and New York. 1907.

The contents of this volume are: Hernia, by Wm. B. Coley; Surgery of the Abdomen, by E. M. Forte; Gynecology, by I. J. Clark; Diseases of the Blood; Diathetic and Metabolic Diseases; Diseases of the Spleen, Thyroid Gland and Lymph-

tic System, by Alfred Stengel; Ophthalmology, by Edw. Jackson.

The worth of this valuable quarterly is rapidly becoming known, so that, at the present time, a studious physician can not feel comfortable without it. No other publication attempts to give in such a concise and lucid form, an epitome of the world's doings in the medical line for the past year. The articles by Dr. Stengel in this volume are alone worth the entire subscription.

MATERIA MEDICA, THERAPEUTICS, PHARMACOLOGY AND PHARMACOGNOSY. Including Medical Pharmacy, Prescription Writing and Medical Latin. A Manual for Students and Practitioners. By William Schleif, Ph. G., M.D., Demonstrator of Medical Pharmacy in the Medical Department of the University of Pennsylvania. Series edited by Berri B. Gallaudet, M. D. Demonstration of Anatomy and Instruction in Surgery, College of Physicians and Surgeons, New York; visiting Surgeon, Bellevue Hospital, New York. Third edition. Revised and enlarged. Lea Brothers & Co., Philadelphia and New York.

This third edition of a most excellent and comprehensive work is well worthy of any practitioner's attention. It is impossible in the short space at our disposal to even imperfectly cover the ground, but certain points demand special notice. The earlier chapters take up the discussion of the imponderable remedies, heat, light, massage, etc.; then the various methods used in administering drugs, the different forms in which they are prepared, incompatibilities, prescription writing, and a short dictionary of medical Latin.

Throughout the book metric equivalents have been introduced, the chapters on administration of drugs considerably enlarged, and the whole edition revised and adapted to the new pharmacopœia, in all nearly one hundred pages have been added.

The body of the work is comprised of materia medica, arranged according to the physiological action of drugs; for example, under antispasmodics we note camphor, its origin, properties, preparation, doses, physiological action, and therapeutic indications, including those of *oleum camphoratum*, *oleum camphoræ*, *acidum camphoricum* and the *monobranati*; next in order, spirits *atheris nit. valerian*, *asafetida moschus*, *humulus*, etc.

Towards the end comes an index of the most recent additions to our remedies, such as adrenalin, agathni, chinoline, hedonal, etc. Then follows a table of drugs in alphabetical order, giving doses in both systems; then a simple drug index, and, finally, one to the various diseases mentioned and their remedies. In short, the book covers exactly the ground required, not only by student, but a practitioner who wishes to refer to drugs from any point of view.

MODERN MEDICINE, ITS THEORY AND PRACTICE. In Original Contributions by American and Foreign Authors. Edited by Wm. Osler, M.D., Regius Professor of Medicine in Oxford University, England: assisted by Thos. McCrea, M.D., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Volume II. Infectious Diseases; illustrated. Philadelphia and New York: Lea Brothers & Co. 1907.

Among the well known physicians who have contributed to this volume, we notice Anders, Councilman, Dock, Koplík, McCollon, McCrea, Poynton (London), Rurah and Shiga.

One of the things which strikes the reader of this new system of medicine is the great thoroughness with which every thing is done. To the subject of typhoid fever, for example, Dr. McCrea devotes 160 pages, and when he concludes, one feels that practically every thing possible has been said. In spite, however, of such a lengthy article, there is a due proportion maintained throughout the book. Almost every phase of the many forms of infectious diseases is touched upon. The reader finds a mine of helpful information.

The great stigma of Osler's Practice of Medicine, the short space devoted to treatment, has, in this new work, been removed. Therapeutics is elevated to its proper and most important place, and is, above all, rational and not nihilistic.

A PRACTITIONER'S HAND-BOOK OF MATERIA MEDICA AND THERAPEUTICS. Based on 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 Council, 4105 Walnut Street, Philadelphia.

The author of the above has attempted a new method of healings with drugs and their actions. He has, in the first

place, by no means confined himself to any particular "school;" the homeopathic remedies, for example, are fully discussed, their fallacies and advantages, without bias or prejudice. Another point which is brought forcibly to our notice is the subject of dosage. Many drugs apparently differ in their action in the large or small dose, these are differentiated; the physiological effects, whether given in small, moderate or large quantities, receives attention; and, finally, therapeutic deductions are drawn. The preparation and methods of obtaining the active principles of the various vegetable drugs are given, showing the differences between those of our regular and the electric and botanic manufacturers, and indicating in which manner we obtain the most useful preparation.

The earlier chapters embrace short discussions on botany, the extracts, tinctures, tablets, alkaloids, synthetics and general dispensing; then follows materia medica proper, the various remedies being considered in alphabetical order from *Abies* to *Zingber*; finally, a complete list of the contents is appended. We consider that the author has fully accomplished his purpose, and heartily recommend his work.

THE PRACTICE OF GYNÆCOLOGY, IN ORIGINAL CONTRIBUTIONS.

By American Authors. Edited by J. Wesley Bovie, M.D., Professor of Gynæcology, George Washington University, plates. Lea Brothers & Company.

D.C. Illustrated with 382 engravings and 60 full-page

Seven writers of note have contributed to this excellent work, we think, with more success than usually attends joint authorship. Bovie, Gaffe, Miller, Noble, Scheuch, Watkins and Werder are names sufficiently familiar to make comment on them unnecessary.

The first three chapters contain the usual introductory matter, in the main well presented, though we think Dr. Gaffe indulges too freely in metaphors at times. In the fourth chapter, on displacements, several admirable plates are given, the use of peraries and the various fixation operations well described.

Of Dr. Noble's work on the repair of the various injuries resulting generally from child-birth, we think very highly; of the plates and figures with which it is illustrated, not so highly. These seem to us to be, in the main, too diagrammatic.

In the treatment of endometritis due to saprophytic and pyrogenic bacteria, Dr. Miller condemns the curette and uses the finger, a single antiseptic douche, and iodoform gauze packing.

With all this we heartily agree. We think, however, that where the gonococcus is known to be the offending agent, less than this should be done, and we do not, in any case, see the necessity for two vaginal douches daily after the above treatment has been given.

The major operations of gynecology are well figured and described. We notice that the old name, deciduoma malignum, has been retained.

We are pleased to note that a chapter has been devoted to the vaginal method of operation, which, we think, has been too hastily condemned by some. We notice that Dr. Watkins also resorts in some cases to vaginal incision and drainage in cases of pyoscepinx.

We see no particular reason why surgery of the kidney and ureter should be included in a work on gynecology; but as the editor states in the preface that this has been done designedly, we suppose it is in accord with the tendency of the age.

In conclusion, we wish to say that this is a very excellent work, and we highly recommend it to student and practitioner. The plates are, on the whole, much better than the figures. Finally, we heartily wish that U. S. publishers would abandon the use of that glazed paper, which makes their books so difficult to read at night.—K. C. M.

ANAESTHESIA AND THEIR ADMINISTRATION: a Textbook for Medical and Dental Practitioners and Students. By Frederick W. Hewitt, M.V.O.M.A., M.D. Third edition. London: Macmillan & Co., 1907. The Macmillan Company of Canada, Ltd., Toronto.

The third edition of Dr. Hewitt's excellent work on *Anaesthetics and Their Administration* contains much new and interesting material.

The chapter on chloroform is up-to-date, and the best method of administration is fully discussed. We agree with him, in that while appliances for regulating the percentage of vapor may be of value to beginners, the open method is preferable, especially when it follows some safer method of inducing anaesthesia.

Dr. Hewitt has invented an inhaler for administering the C.E. and similar mixtures. While this inhaler may be safe in his hands, we think the ordinary administrator had better adhere to Skinner's mask. The Vernon Harcourt inhaler is discussed and two cases are cited, one of which ended fatally, in illustration of its disadvantages.

His method of ether anæsthesia, we think, is inferior to that employed at the Toronto General Hospital, which has all the advantages, with none of the disadvantages, of the open method. When the patient is fully anæthetized the indicator is turned to "full," the mask is tipped off the face to allow the inhalation of pure air and ether, as no re-breathing is allowed; the odor is good and respiration quiet throughout.

The present knowledge of the clinical action of ethyl chloride is concisely summarized. In view of the fact that some thirty odd fatalities have already been reported with the drug, we think the dangers might be more forcibly emphasized.

The preface to this edition deserves notice. In it the author strongly urges the recognition of the responsibility of the anæsthetist as distinct from that of the operator. He claims that legislation should prevent the administration of anæsthetic by unqualified persons, and points out that "it not infrequently happens in the surgery of to-day that the role played by the anæsthetist is of even greater importance than that played by the operator." Altogether it is an excellent work, accurate, clear and complete, and should be in the possession of everyone interested in anæsthesia.

"SOME OF THE CLINICAL ASPECTS OF PNEUMONIA," being the substance of clinical lectures and demonstrations delivered at the West London Hospital to the post-graduates attending the practice of the hospital, by Donald W. C. Hood, C.V.O., M.D., Cantab; F.R.C.P., Lond.: Senior Physician to the hospital. Published by John Bale, Sons and Danielsson, Ltd., Oxford House, 83-91 Great Titchfield Street, Oxford St. W., 1907.

The above is a small volume of a little over one hundred pages, and is a practical review of the many important variations and different clinical aspects of primaries, such as are so frequently omitted in text books. We note especially such headings as mixed infections of influenza and pneumonia, pneumonics which in their use emulate abdominal disease, and those commencing in the apex.

The chapter dealing with the crisis deals principally with those conditions which retard or prevent its appearance; empyrena in its various relations is fully discussed. The book is concluded by a chapter on treatment. The work will be fully appreciated by the active practitioner; it is, above all, practical.

Miscellaneous.

The Treatment of Presclerosis.

In the *Bulletin de l'Academie de Medecine* for January 21st, 1907, is reported a discussion on presclerosis which was opened by Huchard. He maintains that high arterial tension often precedes and produces the vascular lesions of arterio-sclerosis; and to this period of high blood pressure without any arterial change Huchard gave the name of presclerosis. In 1708 Boerhaave noticed the same fact. In 1749 Senac elaborated the theory. In 1874 Mohamed, while studying the prealbuminuric stage of Bright's disease, admitted a functional period characterized by increased blood pressure without any vascular change. In 1883 Sir W. Broadbent attributed the lesions of arterio-sclerosis to a heightened blood pressure; Clifford Allbutt said the same in 1895, and Leonard Williams in 1906 said that high tension is original in this sense, that it exists independently of every organic lesion. Josue produced atheroma in animals by injections of adrenalin. The rational line of treatment is one which will lower the blood pressure. The arterial system regulates the work of the heart, and it is through that system we must hope to relieve the latter organ. This lowering of the blood pressure may be achieved by many means—physical, hygienic, and medicinal. Diet, physical exercises, massage, Bourbon-Lancy baths, and high-frequency currents are some of the methods employed. Lacto-serum, amylnitrite, nitroglycerine, sodium nitrite, tetranitrite of erythol, potassium nitrate, and theobromine by its action on the kidneys, are also serviceable. Renal impermeability caused by excess and errors in eating is a frequent cause of presclerosis, and attention must be paid to this if the cure of presclerosis is wished and not only its temporary relief. The condition commences with an intoxication; it continues and ends with an intoxication. So to resist from the first high arterial tension by prescribing a diet; to resist it again in its effects by a vasodilator and pressure-lowering treatment; to reduce to a minimum the intake of foods which act as poisons, and to hasten the elimination of the poisons by diuretics; and lastly, to strengthen the heart in its constant fight against peripheral obstruction, is the problem of treatment. To recognize early the first functional stage—presclerosis—this is the work of the clinician. And the importance of this is great, for it is in the stage of presclerosis that the disease can be cured; when arterio-sclerosis is established with anatomical lesions of the vessels the cure can only be functional. Treatment by iodides, which has been so much abused—and still is abused in the