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THE MANAGEMENT OF THE VARIOUS FORMS OF NASAL OBSTRUCTIONS.

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By the term nasal obstruction is meant an interference with the inlet, or outlet, of air through the nose, whether it be intermittent, or continuous. This obstruction may cause little or no inconvenience, if situated on one side only, as the opposite side is frequently proportionately increased in size. The obstruction may be due to causes which are permanent, or to causes which allow periods of normal nasal respiration.

I assume that all, who read this paper, appreciate the importance of continuously unimpeded nasal breathing. I think its importance is too frequently overlooked and many complaints, due to it, are thereby unrelieved.

Obstructions of the nose may be conveniently discussed under three headings.

I. Obstruction in the vestibule.

II. Obstruction between the vestibule and posterior nares.

III. Obstruction due to causes situated in the naso-pharynx.

One might also add a fourth series in which there is a complaint of nasal obstruction, or insufficiency, with no objective reason for such—"fixed idea."

I. OBSTRUCTION SITUATED IN THE VESTIBULE EXAMINED WITH UT A SPECULUM.

(a) *Congenital smallness of the anterior nares.*

This condition is fortunately quite uncommon; and, when causing marked disturbances, is treated by dilation. It is particularly annoying

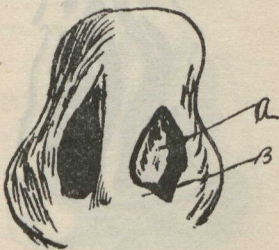


Fig. I.

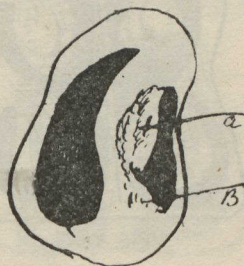


Fig. II.

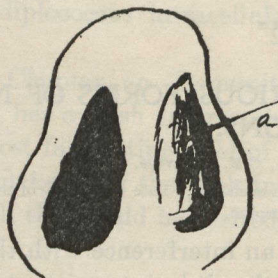


Fig. III.



Fig. IV.

to find this condition in a case of atrophic rhinitis, where the inability to clear the nose thoroughly, hinders the proper treatment of the disease. I have, at present, a case of atrophic rhinitis in a patient, with congenitally small anterior nares, who is unable to satisfactorily carry out treatment, owing to this obstruction.

(b) *Collapse of the Alæ Nasi and constriction of the Lumen Vestibuli.*

This condition is readily seen, on inspection of the vestibule, by pushing the tip of the nose backward and slightly upward. If a nasal speculum be used, it should not be inserted far in the vestibule, as it may cover up the pathological condition.

This form of obstruction may be the sole cause of a marked nasal obstruction; or remain, as a cause of failure, after removal of an intranasal, or post-nasal obstruction.

The treatment is simply palliative, and consists in the use of rubber tubing to dilate the passage, and small rubber, or celluloid rings, which may be worn at night to allow of normal respiration.

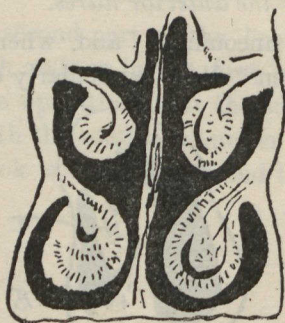


Fig. V.



Fig. VI.

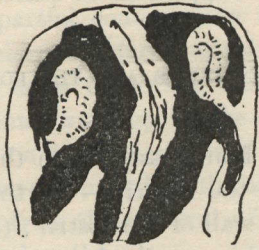


Fig. VII.

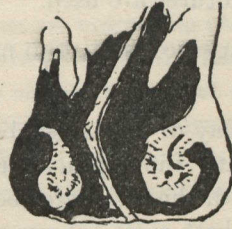


Fig. VIII.

(c) *Septal Irregularities in the Vestibule.*

- (1) Displacement outward of the lower border of the triangular cartilage.
- (2) Dislocation outward of the mesial crus with eversion of the triangular cartilage.
- (3) Dislocation of the mesial crus in the ventricle.
- (4) Combination of (1) & (2).
- (5) Vestibular spur usually a marked deflection of anterior end of triangular cartilage due to a blow on the nose.

Fig. I. Displacement of the lower border of the triangular cartilage into the left ventricle.

- (a) Cartilage.
- (b) Distorted margin of columnna.

Fig. II. Dislocation of the mesial crus with eversion of the triangular cartilage.

- (a) Triangular cartilage.
- (b) Mesial crus.

Fig. III. Dislocation of the mesial crus in the left ventricle.

- (a) Mesial crus.

In each of the foregoing cases of vestibular obstruction the treatment varies with the situation and the amount of obstruction. Generally speaking, the mucous membrane is cut and retracted, while the protruding mass is siezed and removed with scissors and bistoury. The mucous membrane is then trimmed and replaced.

While it seems theoretically desirable to suture the flaps of mucous membrane, it is practically impossible to do so with any attempt at



Fig. IX.

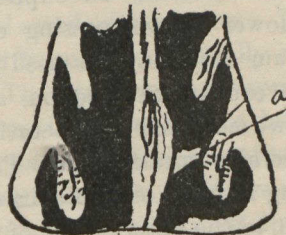


Fig. X.

accuracy ; and the results, from non-suture, appear to be quite as good as when sutures are used.

II. OBSTRUCTION SITUATED BETWEEN THE VESTIBULE AND THE POSTERIOR NARES.

We may divide these obstructions into four classes :—(a) those connected with the septum, or inner wall of the nostril :—(b) those connected with the turbinated bodies and outer wall of the nostril ; (c) those in which both sides are concerned, as synechia ; and (d) cases in which the obstruction is due to a foreign body.

Fig. IV. Normal osseous nasal fossæ.

Fig. V. Hypertrophy of mucous membrane over inferior and middle turbinated bodies.

Fig. VI. Deflected and thickened septum in a contracted osseous fossa.

Fig. VII. Greatly thickened septum with deflection.

Fig. VIII. Deflected septum without thickening.

Fig. IX. Septal spur.

(a) part of saw.

Fig. X. Thickened septum and (a) Anterior synechia.

Before taking up the discussion of each region above mentioned, some remarks regarding the air currents in the nose are necessary. It has always been considered that the inferior meatus was the inspiratory channel of the nose. Mr. C. A. Parker, in the *Journal of Laryngology*, takes the view that the middle meatus is the inspiratory gateway ; and the lower meatus the expiratory channel. The method, employed for ascertaining the direction of the inspiratory air current was to blow lycopodium into the air the patient was breathing, afterwards noting the distribution of the powder in the nose. In the normal nares, the distribution of the powder on the mucous membrane, showed, without the least doubt whatever, that the current of the inspired air passes upward and backward through the middle and superior meatus, entirely missing the inferior meatus. It then sweeps over the vault of the pharynx to about the centre of its oral portion, whence it takes a straight course into the arytoids. For expiration, note was made of tobacco smoke, exhaled through the nostrils. In expiration, the air, as shown by the smoke, takes a lower course, passing chiefly through the lower meatus. This lycopodium test may be used to satisfy ourselves that the abnormality we see is causing obstruction, and also, according to the deposit of the powder, we may limit our operative measures to the obstructing part alone.

Generally speaking, Mr. Parker says any abnormality, situated or projecting in front of a line drawn from the floor of the nose, within the vestibule, to the anterior end of the middle turbinate, will cause difficulty of inspiration, and should, therefore, be removed. Whether Mr. Parker's

observation will be endorsed by all rhinologists, or not, remains to be seen ; but a partial confirmation is frequently seen in practice, when a markedly enlarged inferior turbinate body causes no noticeable obstruction ; and, in cases of normal nasal chambers, when the person has been, for some time, working in the dust, it will be noticed that most dust is deposited on the anterior end of middle turbinal. Furthermore, one is sometimes surprised at the apparently small improvement in breathing, ensuing from the removal of a large ridge from the septum, situated low down and well back.

(a) *Obstruction Connected with Septum.*

(1) There are some rhinologists who insist that all irregularities of the nasal septum should be removed, and the septum left plane. Almost every septum has some irregularity, and to operate, simply because there is a prominence, would bring rhinology into disrepute. The septum may require to be operated upon for the following reasons.

- (1) Impediment to nasal respiration (inspiration and expiration).
- (2) Interference with nasal drainage.
- (3) Cases of eustachian catarrh, kept up by the associated rhinitis, due to septal spurs, etc., or inability to catheterize owing to septal irregularity.
- (4) Cases of chronic laryngitis due to or kept up by nasal obstruction.

If the septal irregularity be slight, and no pathological condition is produced by its presence, it had better be left alone. On the other hand, if it produces or tends to keep up, any pathological state, removal should be undertaken. The means to be adopted, in removing the obstruction, depend, for the most part, on the character and location of the obstruction. Those cases, in which there is deflection alone, had best be treated by some such method as Asch's, or forcible straightening, and subsequently using intra-nasal splints. If there be, in association with the deflection, considerable thickening, removal of the projection, with saw or bistoury, is desirable some weeks previous to the correction of the deflection. Frequently one may gain the desired amount of space by removing the anterior half of the inferior turbinated body. The spokeshave is an admirable instrument for removing ridges and cartilaginous spurs. The instrument must, however, be very sharp, and be used very rapidly and firmly. The saw is probably most often used. The situation of the spur, or ridge, makes considerable difference in the question of operative interference. Spurs, situated low down and projecting into the inferior meatus, probably cause no nasal obstruction. They may, however, interfere with nasal drainage, particularly if associated with hypertrophy of the inferior turbinal. In cases of asthma and hay fever, owing to the sudden engorge-

ment of the inferior turbinal pressing on these low situated spurs, they may well be sawn off.

Fig x is a representation of a modified nasal saw I have had made for me by Messrs. Meyers and Meltzer, London. Its advantages are that it will cut close to the septum, up or down, and will neither bend nor jam. Nasal saws have been made of thicker steel, to obviate the fault of jamming and bending; but in so doing, the cutting qualities of the blade have been markedly impaired. This I have obviated by having the blade triangular in section with the apex of the triangle parallel with, but away from the septum, and the cutting edge at one end of the base of the triangle. It therefore matters little how thick the blade is, as the thickness means an increase of distance between the apex of the triangle and the centre of the base, the cutting edge being always the same. This instrument has given every satisfaction at the Central London Throat and Ear Hospital. Frequently, in removing a thickening on the convex side of a deviated septum, a perforation will be made if we take away all that seems to us to be obstructing. It is a somewhat disputed question as to the necessity for causing a perforation. In very neurotic people, the knowledge that everything is not perfectly natural may cause the operator a great deal of unnecessary alarm and blame. Whether the production of the perforation should be conclusive proof of the error of the operator, I am not prepared to say. Suffice it to say, always avoid a perforation if possible; yet, if one has the choice between relief from the obstruction, with a small perforation, and partial relief with no perforation, the amount of relief desirable, and the state of the patient himself, must be the guide. I have read of cases in which the operator minutely describes the reflection of the mucous membrane from the projection, the removal of the exposed bony and cartilaginous portion, and subsequently the stitching of the edges of the mucous membrane together. It reads very nicely, but I venture to say it is one of the most difficult operation in surgery, and one rarely, if ever, *successfully* performed.

Owing to a certain amount of bactericidal properties being possessed by the nasal mucous secretion, it is obviously our duty to preserve, as much of it as possible; but we should not spoil our operation, by trying to preserve a portion of the tissue which, if removed, will in all probability be regenerated. The galvano-cautery has been used very largely, I regret to say, in reducing thickenings of the septum. Possibly in cases where there is considerable thickening, due mostly to increase in the thickness of the mucous membrane, some reduction may be gained by cautiously using the cantery. I think, however, except in very rare instances, the cantery is not indicated in septal work. Ulceration, perforation, and synechia too frequently follow its use.

The best anæsthetic to use is that one with which the operator is most experienced. Those familiar with septal operations, under chloroform or ether, may make a failure of a similar operation, if necessarily performed under gas. Cocaine 20 per cent. made with 1-8000 bi-chloride solution, followed by adrenaline, is generally sufficient. Cocaine made up with a 2 per cent. solution of sodium sulphate, Wingrave says, has a much more penetrating action. In neurotic individuals and where the projection is very large and bony, gas, given by a skilled hand, is preferable. Bases requiring moulding, breaking, and bending of the septum often require ether, or chloroform, in addition to gas. Bromide of ethyl is highly spoken of by some writers, but I have had no experience with it.

Hæmorrhage is occasionally very annoying, owing either to severing the artery of the septum, or is a tendency to bleeding inherent in the individual. Various preparations of the supra renal gland are used to prevent bleeding, as the watery extract, the dry powder, and Hazaline etc; but all are inferior to adrenaline. Not infrequently in the larger septal ridges, or spurs, very serious bleeding comes on five or six days after the operation. Strips of gauze, soaked in adrenaline, usually speedily control it. The after treatment of septal operations varies greatly. Personally, I am very much opposed to the use of plugs, following these operations. In my experience, hæmorrhage, in these cases, is usually slight; and, if troublesome, lasts, at most, an hour—a time advantageously employed in waiting, if it will avoid plugging. If the hæmorrhage is alarming, one may be forced to plug very extensively. In cases where the septum has been broken and a pressure splint is necessary, Moure's is by far the best, not requiring to be changed like Asch's, and, for some reason I cannot explain, causing much less discomfort.

Occasionally it is necessary to use small strips of rubber sheeting to prevent synechia forming. Some mild antiseptic ointment, or oil spray, is desirable after these operations, preventing sepsis and crusts. The patient is better in bed for a few days, and a mixture of Soda Salicyl and bromide of potash may be advantageously employed.

Hypertrophy of the mucous membrane, over the ventricle of the septum, is probably never *per se* a cause of nasal obstruction. It may, however, if well marked, increase an already present insufficiency.

I have omitted any reference to antiseptic preparations in these operations, as no surgeon of modern ideas should operate, without using the same precautions as he does else where. The avoidance of any operation, during an epidemic of influenza, or when the patient is forced to be in an undesirable atmosphere after the operation, is obviously essential to good results.

(b) Obstruction situated on the outer wall of the nasal passage.

(1) Bulging of the inner wall of the antrum. I have seen this mentioned, as an actual occurrence. Alone, I cannot conceive of its causing obstruction, but, with a very marked septal deviation and turbinal thickening, a small bulging may be an element in the obstruction. The treatment is obvious.

(2) Middle turbinated body. The amount of importance to be attached to slight enlargements of the anterior ends of this body, depends considerably upon the view one holds of the air currents in the nose. The powder test may be advantageously used. The markedly polypoid condition not infrequently seen in the anterior ends of the middle turbinal, is possibly always associated with empyaema of one, or more, of the ethmoidal cells. Hypertrophy of the inferior lip of the hiatus semilunaris, with some, though slight, enlargement of the anterior end of the middle turbinal, may cause obstruction, in fact well marked hypertrophy of this lip may readily be mistaken for the middle turbinal; but careful use of a probe will satisfy one of the position of the middle meatus, and thereby the turbinated body.

The treatment of obstruction in this region is almost entirely by cutting forceps and cold snare. Grünwald's punch forceps and a stout snare will quite readily remove the anterior end of the middle turbinal. The hiatal lip is best removed by scissors and snare. Rarely is it necessary to use the cautery to the middle turbinal. When used, simple searing of the lower border alone should be done, cauterizing agents, as in the superior regions of the nose, are particularly dangerous. Any accessory sinus disease, which may keep up the turbinal trouble, of course should first be corrected. Furthermore, careful inquiry should be made into the general constitutional condition of the patient, so as to eliminate any systemic affections with vascular atony, gastro hepatic disorders, gout and rheumatism. Treatment directed to this end, may so relieve the patient that operative measures will not be necessary.

(3) Obstruction due to hypertrophy of the inferior turbinated body. The part played by the inferior turbinal, in nasal obstruction, depends also on the view one takes of the air currents in the nose. It is quite obvious that the anterior end can alone never be an impediment to nasal inspiration if the natural inspiratory channel be the middle meatus. Be that as it may, the discussion in this paper relates to the management, or treatment, of the case. The inferior turbinated body may be divided into three portions, anterior, middle, and posterior. Hypertrophy of the mucous membrane may be confined to one, or involve all parts at the same time; or, the bone itself may be considerably enlarged. The hypertrophy is generally

confined to the anterior and middle portions. Not infrequently, one may find the mucous membrane redundant, and curled under the lower end of the bone, from which it can be displaced by a probe. If the enlargement be confined to the anterior extremity, a number of deep cautery punctures, sufficient to pin the tissues down, may be all that is required; but in many cases, this has to be repeated so often that the patient becomes annoyed at the constant burning. If the anterior extremity be removed by scissors and snare, a rapid and permanent result is secured. In cases of cystic enlargement, this alone will suffice. If the mucous membrane be very redundant, the cold snare, if the wire can be engaged, give the best and most rapid result. Hypertrophy, confined mostly to the central part, is treated in a similar manner, though the cautery is, from the situation of the hypertrophy, almost entirely used and linear bearings made. Chromic acid is highly spoken of by McBride, especially if there is much secretion. Care should be taken not to burn the septum, as synechia may cause great annoyance.

Submucous division of the tissues, with an ordinary tenotomy knife, has many advocates. In this method, no loss of surface epithelium occurs. A fine galvano-cautery knife might be similarly used. Submucous injections of chloride of zinc has a number of continental advocates. The posterior hypertrophy may, if large, cause great interference with both inspiration and expiration. The cold snare is most commonly used, assisted by the finger in the naso-pharynx; though a spoke shave may be applied, being withdrawn half an inch, and the mass removed with a snare. Dundas Grant has a special instrument, which, in his hands, amputates the posterior extremity very nicely. These hypertrophies, in young adults, may, in a very marked manner, cause the appearance and symptoms of adenoids. I have one very well marked case of this kind. Occasionally, removal of the mass may be followed by middle ear suppuration, or secondary hæmorrhage. Rest in bed for a few days, and avoidance of excessive exertions for two weeks at least, will guard, as best one can, against a secondary hæmorrhage. The after treatment is similar to that given for septal cases.

While the electric cautery has been of very great assistance to the Rhinologist, there is probably no instrument that has been more abused. There seems to be an idea, among some members of the profession, that every nasal obstruction is caused by the inferior turbinal; and is most surely and quickly cured by the application of some cauterizing agent, such as the cautery, or chromic acid. While these are admirable agents, in properly selected cases, they are not very often required. More harm has been done, by their indiscriminate use, than would have resulted had they never been heard of at all. Various firms send agents

through the country with cautory batteries; and it would seem from the number sold, that the panacea for all nasal troubles is cauterization of almost any swelling seen in the nostril. This sort of practice brings Rhinology into disrepute, to say nothing of the later results in the patient's nose, as septal ulceration, synechia, pharyngitis sicca, etc. Cases of hypertrophic rhinitis are not cured by a few sittings, though, they are much better, after the cautory has been used. It is necessary, as Wishart says, that these patients be seen, at least once a year, so that any return of their trouble may be promptly met. Those cases, however, in which we remove a portion, by snare, or cutting forceps, seldom require anything more. Cases of obstruction, of temporary nocturnal occurrence, are sometimes relieved by supra-renal glands, grs. V, at bedtime, and general constitutional treatment. They may be associated with a tendency to asthma and emphysema, or be reflex, as from the pelvis in females.

One, not infrequently, hears of children having their nose burned for hypertrophy of the inferior turbinal. I cannot see how this is ever justifiable, as we cannot have hypertrophy before development, and the turbinated bodies are not developed until puberty. (Wingrave.) These cases can, in the majority of instances, be entirely relieved by the removal of an apparently insignificant mass of adenoids, situated mostly at the base of the septum, followed by a simple cleansing spray. I have never seen a case of nasal obstruction in a child, where the cautory was indicated. I can imagine nothing more pernicious than stunting the mucous membrane and glands of the turbinated body in a child, by the cautory, or chromic acid. If one must have more space, after trying milder methods, Kyle's plan of making a small incision with a sharp knife would, in my mind, find its most useful application. During the greater part of last year, I had an excellent opportunity of carefully observing the question of nasal obstruction in a large number of children, and I did not see one instance in which a cauterizing agent was used. This occurring, in one of the foremost special hospitals in Europe, is significant.

There are two classes of cases that require a somewhat radical operation on the inferior turbinated body.

(2) *Cases of obstruction due to contracted osseous walls.*

Here our object is to secure space, and we may attack either the septum, or the turbinal. It is in such cases, as well as in cases of marked septal deviation, in which one does not, or is unable to get good results from a septal operation, that complete removal of the inferior turbinated body, by Carmalt Jones' spokeshave, has its place.

(To be continued.)

TREATMENT OF RESULTS OF INFANTILE SPINAL PARALYSIS.

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THE great advance made in surgical methods is nowhere better illustrated than in the treatment of the deformities and disabilities resulting from anterior poliomyelitis. While the prevention of deformities by early application of apparatus has been advocated and practiced for a long time, it is only within recent years that any attempt has been made to rearrange the attachment of active muscles so as to permit of them being used to the greatest mechanical advantage.

The treatment of such deformities and disabilities will be briefly considered under four heads, and illustrated by cases from the notes of the writer. In the consideration of these cases one speaks most largely of paralysis affecting the lower extremity, because the surgeon is consulted so much more frequently for relief of deformity or establishment of increased function, of the lower extremity than of the upper.

I. CASES WHICH MAY BE TREATED BY MECHANICAL SUPPORTS.

In the lower extremity one finds numerous cases with paralysis of all the muscles, sometimes including the adductors and glutei, which produces a flail like or uncontrolled limb.

No surgical procedure seems feasible in such cases. In order to gain a firm base of support one would have to produce ankylosis at hip, knee, and ankle, and the obvious disadvantages of such a course would more than overbalance the advantages. It seems then that this class is best treated with a mechanical support which takes somewhat the form of an artificial limb with a core of bone throughout. The support is preferably fastened to the foot and extends as a side box up each side of the leg, a leather lacing enveloping calf and thigh. The joint at the ankle may be a free joint or a stop joint, set to prevent toe dropping below the right angle. The knee joint should be an automatic lock joint, that locks itself when patient stands, and can be loosened by pressure on a spring, through the clothing, so leg can be flexed when patient sits down. The support may end at the perineum or be continued to a pelvic band, with a free joint at the hip.

This form of support will usually enable one, who has hitherto been obliged to use a pair of crutches, to get about with the assistance of a cane. The mechanical support may be used also in those cases where

surgical treatment offers a hope of increased usefulness of limb without apparatus but where patient objects to submit to operation.

J. S., aet. 23, applied to me with hope of improving function of the limb. He had an acute attack of spinal paralysis at 2½ years of age, resulting in complete paralysis of left lower extremity with final partial restoration of function of the adductors. The psoas was apparently never affected. He could get about only with the aid of a pair of crutches and the leg was more or less uncontrolled so that he thought of having it amputated.

A supporter similar to the one described above was made for him and he was able to swing it forward with the psoas and control it fairly with the adductors and he soon began to walk with two canes. Now, after one year, he can walk for several miles with comparative ease, with assistance of one cane. A second similar case was a young girl fifteen years of age with early infantile paralysis resulting finally in permanent paralysis of all muscles of right lower extremity except adductors, glutei, and hamstrings. The limb was two inches short. She could walk short distances by placing hand of affected side just above the knee thus carrying the weight of the trunk through the arm. This ungainly position had developed a marked rotary lateral curvature of the spine. A two-inch high shoe with support attached was made similar to the one described and with knee joint thus locked she was at once able to stand erect, and can now go up and down stairs and walk long distances with comparatively little limp. She is now taking gymnastic exercises to correct lateral curvature which is rapidly improving.

II. CASES WHERE MECHANICAL SUPPORT MAY BE EMPLOYED ADVANTAGEOUSLY ONLY AFTER TENOTOMY.

The tibialis anticus and posticus muscles are frequently found permanently paralyzed, and the contraction of the unopposed peronei, together with the body weight, produces a valgus deformity of the foot. The continuous rolling over of the foot tends to bring the origin and insertion of the gastrocnemius and soleus closer together, and following the well known law of nature, the tendo Achillis becomes shorter to adapt itself to the new condition. Any reposition or correction of the foot is now opposed, not only by the contracted peronei muscles, but also by the contracted tendo Achillis. The treatment as suggested by this class is division of the tendo Achillis, and possibly the peroneal tendons, and application of a fixation dressing such as plaster of Paris after reposition of the foot.

After two or three weeks the support should be applied and should consist of an outside bar attached to the sole of the boot, with a free

joint or a stop joint, (*i.e.*, a joint made to stop at a right angle but free for dorsal flexion) as the case requires, at the ankle and continued up to a calf band. To the sole of the boot on the inside a T strap should be sewn, in such a way as to allow the horizontal limb of the T to be buckled around the upright bar just above the ankle.

This method gives a good base of support and patients walk very comfortably and securely so long as apparatus is intact and in good working order, but it necessitates the continuous wearing of a support, and is hardly to be recommended, if the next plan can be adopted.

G.R., girl of thirteen years, had paralysis of muscles on the inside of leg. Tenotomy of the tendo Achillis and peroneus brevis with application of a splint as above, was suggested, and so long as T strap held, the position was very good and she was able to walk well, but strap would give way frequently and foot was somewhat neglected, and ultimately deformity recurred and was afterward successfully and permanently corrected by tendon transplanting.

This case is given to show the necessity of constant care where appliances are used, to keep them in order so that the simplest form of apparatus that can be used is always the most successful.

G.E., a similar case, is a child of 5 years, who was slight and not severe on any appliance, had a very useful foot with such a simple splint and wears it without inconvenience.

III. CASES WHERE THE ATTACHMENT OF ACTIVE MUSCLES MAY BE TRANSPOSED SO AS TO ALLOW THEM TO ACT TO BETTER MECHANICAL ADVANTAGE.

The operation for transplanting active tendons into paralyzed ones first performed by Nicolodani, was not taken up so rapidly as its reasonableness warranted. After the lapse of several years it has now become established as a satisfactory plan of treatment in certain cases which would otherwise remain disabled, but where by this means function has been almost completely restored. Such marked success has been attained that patients with severe disability, who were hopelessly crippled, or compelled for life to wear some form of support, are enabled to do without apparatus, or are permitted to substitute simple for more complex and cumbersome appliances.

Tendon transposition is applicable to muscles and tendons in any part of the body, but on account of the less intricate arrangement of tendons, much more useful in the lower extremities.

In the upper extremity paralysis of the supinators of forearm, and consequent extreme pronation can be largely remedied by detaching the insertion of the pronator radii teres from the outer side of the radius,

carrying it through the interosseous membrane, around the back of the radius, and reattaching it near its old point of insertion. This transforms a powerful pronator into a mild supinator, and often succeeds in relieving a severe deformity and renders the arm much more useful.

In the thigh, where the extensor group is so frequently paralyzed, the sartorius remaining active, the sartorius can be divided at or near its insertion, and the cut end fastened into the fascial attachment of the quadriceps to the patella. The development which takes place from use of this muscle is often sufficient to maintain extension of the leg in walking, and thus do away with the necessity of a support above the knee.

In a valgus position, due to paralysis of tibialis anticus and posticus muscles, and unopposed action of the peronei, the deformity may be corrected and the equilibrium of the foot restored by dividing the peroneus longus low down behind the outer malleolus and carrying its proximal end across the extensor tendon and securing it into the tendon of tibialis anticus. This relieves the *pull* on the outside of the foot and gives support to the inside. If by this means the *guying up* of this part of the foot is not sufficiently accomplished, a section may be taken from the tendo Achillis and transplanted into the tibialis posticus.

In cases of paralytic varus, which are much less frequent than the foregoing, the opposite plan may be followed but care should be exercised not to weaken too far the inside of the foot for fear of producing flat foot. For this reason in this form of disability the writer prefers to leave the sound tibialis anticus intact and, after dividing the paralysed peroneal tendon or tendons to attach the distal end of one or both to some sound muscle say the peroneus tertius or extensor longus digitorum.

In cases of paralysis of the calf muscles, the tibialis posticus or peroneus brevis or both may be inserted into the tendo achillis; but this is the least satisfactory of any of the cases of tendon transposition, as the combined strength of these two muscles does not equal a fourth part of the calf muscles. (This was the original operation of Nicolodani and although it is least useful of any muscle transposition, yet to him is due the suggestion of this plan of treatment.)

A muscle, which is useless or harmful by reason of the position of its attachment, but which is active and capable of development, will gain power as it is transposed so as to be able to work to advantage, so a small muscle like the sartorius may be transplanted into the quadriceps extensor, and while it can never hope to take its place yet it will develop so as to do a share of the work required of such a muscle. On the other hand if these muscles are allowed to remain in useless positions they would just as surely atrophy and degenerate.

M. E., boy 18 years of age with paralysis of thigh muscles except sartorius. The sartorius was transplanted into fascia of quadriceps and after six months the limb was markedly improved. While he could not extend the leg completely with weak extensor yet it was sufficiently strong to keep the leg extended while walking and to prevent the knee *buckling* as it did previously.

J. W., act. 8. Peroneus longus inserted into paralysed tendon of tibialis anticus and a valgus position of foot corrected, so that with a shoe with slight lift on the inside, patient was able to do without support and to walk with a stable and secure foot.

L. S. boy of 7 years—with marked valgus and severe disability—paralysis of flexor longus hallucis as well as tibialis anticus and posticus. Boot could not be satisfactorily held with outside support and T strap—peroneus longus was inserted into tibialis anticus as in last case and a section of tendo Achillis split off and inserted into a slit in the tendon of flexor longus hallucis. This was a most satisfactory recovery. Boy walks with a secure foot and no valgus—and easily walks a couple of miles to school.

In all these cases five to six weeks should be allowed before any strain is put upon the transplanted tendon for tendons unite slowly and may give way if used earlier. For the same reason catgut should never be used as a suture to fasten one tendon into another as it absorbs too quickly—kangaroo tendon is satisfactory or fine silk may be used.

IV. CASES WHERE SO LITTLE MUSCULAR TISSUE IS LEFT AS TO BE USELESS FOR SUPPORT AND WHERE SUPPORTS ARE NOT ADVISABLE.

One sees cases where a complex support is necessary in order to allow patient to get about, and in active and growing boys one sees these appliances constantly in the repair shop. If patient lives at a distance and repairs cannot be easily made any other means which may allow of simpler appliances being used is readily accepted. In such a case where there is no control of extension at knee and continuous treatment with appliances is not feasible, the knee joint can be excised and a stiff joint secured which will allow patient to get about without apparatus. In some cases of uncontrolled ankle movement *arthrodesis* at the ankle may be employed thus producing ankylosis and a stable foot giving a firm base of support. This in children is not so satisfactory as in adults as much freedom of motion often follows at the astragalo-calcaneus and astragalo-scaphoid joint and the foot again becomes insecure.

Whitman describes a very ingenious plan of backward displacement of the foot which may be used in conjunction with arthrodesis, especially in cases of calcaneus deformity. In this class the patient walks on the

astragalus, perched on the upturned end of os-calcis, and there is always a marked degree of insecurity. As in children the simple erosion of the ankle joint is not sufficient to permanently secure the foot as growing bones are not able to resist so great a tendency to recurrence of the instability. Recognizing this, Whitman does what he calls an astragalectomy, arthrodesis, tendon—shortening, and backward displacement of the foot. The astragalus is removed after division of external lateral ligaments, and this allows sufficient freedom of movement of the foot to slip it bodily backward, thus carrying the centre of gravity of the leg further forward toward the centre of the foot.

D. H., eight years of age, marked calcaneus deformity from complete paralysis of the calf-muscles, the os calcis being up-turned with its long axis almost in line with the posterior surface of the flattened calf. Spring supports were tried without avail, as he succeeded in breaking any and all forms of support in a very short time. Two years ago the tendo Achillis was shortened and arthrodesis at the ankle performed. Deformity recurred by reason of great mobility at other tarsal joints. Whitman's operation was performed, and balance of the astragalus, and a portion of the scaphoid removed, after division of the external lateral ligaments. The whole foot was displaced backward so that the tibia came in contact with the anterior end of the os calcis, cuboid, and scaphoid. Wound was closed in the ordinary way, and a fixed dressing applied for eight weeks. The boy has now a secure base of support without deformity, without possibility of recurrence, and can walk long distances without apparatus.

FRACTURES OF THE SHAFT OF THE FEMUR.*

By HADLEY WILLIAMS, M.D., F.R.C.S., Eng., London, Ont.

MR. PRESIDENT AND GENTLEMEN,—The object of this paper is not with the idea of giving information regarding fractures of the thigh, but with the expectation of learning something regarding the best means of ensuring a good result. The medico-legal aspect is also interesting, for cases of non-union, shortening and deformity, with a constant amount of atrophy and loss of working power, sometimes result.

The first great aim is undoubtedly to get "bony union" in a "good position." Any method, no matter how crude, which obtains this result, in a reasonable length of time and with the patient's health unimpaired, is worthy of our support and confidence. These fractures tax our ingenuity, raise up visions of law courts and loss of medical prestige. No wonder we hold the greatest respect for successful results, and nothing but hatred and malice for the fracture itself when we, ourselves, happen to be the unfortunate victims called in consultation.

You will agree that most appliances contain too much mechanism and are utterly useless except to the enthusiastic inventor. Whatever method a surgeon adopts it should be as simple as possible and the one with which he possesses the most experience.

The important local signs are "shortening, eversion of the limb, and deformity." In the upper part of the shaft, the fracture is nearly always oblique; transverse lower down and in children; and quite close to the lower epiphysis, the upper fragment projects in front and forwards, the cases where it passes backward into the popliteal space being of the rarest.

Shortening is the rule. Though muscular contraction plays an important part in preventing end to end apposition of the fragments, yet it is the force which seems to be the actual factor in determining the shortening.

The deformity may be very little but during voluntary movements or when the patient is going under the anæsthetic, a well marked angular projection, in the upper half of the shaft, occurs in front and external, due to the Ileo-Psoas and Glutei muscles rotating it outwards.

Eversion is a characteristic sign due to gravitation of the leg, by being external to the line of support from the centre of the Acetabulum to the foot. In a few cases of impaction, where the fragments are caught in muscle, or where the force is peculiar, the limb may possibly be straight or even inverted.

* Read at the Ontario Medical Association, June 4th and 5th.

The great aims in the treatment are:—

1. To bring the fragments into apposition thereby correcting the deformity and the shortening.
2. To keep the parts in that position by some method which ensures perfect immobility of the limb, and
3. To distribute whatever pressure is applied as evenly as possible to prevent interference with the circulation.

The treatment should be focussed on the one great aim in view namely, "Acquiring bony union without deformity" and with a minimum amount of shortening.

Personally my own experience has been entirely with plaster of Paris except in the sub-trochanteric form. Here the upper fragment is tilted upwards and outwards much more than in fractures lower down.

The great difficulty is in keeping the fragments in a straight line on account of the tilting, so that the leg must be elevated and rotated outwards. For this fracture extension, and the use of the long side splint seems to be the best, for if the pelvis is not fixed at the same time, lateral movements of the ends of the bones, and consequently the chance of delayed union are greater. But the most frequent injury takes place just above the centre of the shaft and those are the causes the surgeon is more frequently called upon to treat. Non-union, overlapping of fragments without shortening and deformity, are the great results to be avoided and on account of the almost universal obliquity of the fracture, their successful treatment is one of the most difficult problems in surgery.

My remarks, like my experience, are entirely confined to plaster of Paris, though condemned and objected to by many surgeons. What are some of the objections?

1. Not at hand when needed, too heavy, softens by discharges, massage cannot be performed, limb shrinks beneath the cast, the joints become stiff, the muscles atrophy.

Allow me to call to your mind:—

1. That strong bony union without deformity and with minimum amount of shortening being the great results to be obtained, atrophy of muscle and stiff joints are really of secondary importance.
2. That atrophy of muscle, to a certain extent, occurs in all cases, due to a physiological sense, by which muscle seems to realize that rest of a part is needed.
3. That, personally, non-union has come under my notice from other methods, but not with plaster, though it does undoubtedly occur.
4. It especially makes the best all-round splint for children; for adults, with thin limbs; and in cases where a recumbent position for a

lengthy period is injurious to the health of the patient, for he may sit up in bed, after removing the pillow, and still preserve the correct angle of the leg with the body.

5. It keeps the parts immobilized (the best guarantee for bony union). My method is briefly this:—

1. To measure the leg between the knee and ankle to make sure there is no old time shortening as in a case sent to the public ward of the hospital for a dislocation of the hip. The patient had received an injury 20 years previously, and the shortening was really due to an old fracture of both bones of the leg.

2. The limb is extended to the full and slightly abducted (chloroform being used if necessary), a thick layer of cotton applied to the groin on the inside; sheet wadding and the plaster bandages from the toes to Pouparts' ligament.

3. The plaster is rapidly cut down the whole length in the medium line before hardening takes place, and from the knee to the groin a "V" shaped piece, from one to two inches wide at the upper part, is removed.

4. The surgeon holds the leg in the extended and corrected position until the cast is sufficiently set.

5. Around the limbs are placed several straps with buckles and tightened as required.

Extension is now used by the following method. The usual weight and pulley are arranged and a loop thrown round the ankle outside the plaster, the limb is laid on a pillow with the foot beyond its margin and the very light tendency to eversion corrected by a sand bag.

6. The patient must lie on a firm mattress to prevent pitting and so interfering with the proper extension.

REGARDING THE EXTENSION.

1. There is no irritation to the skin as from adhesive plaster, and no ulceration. The cast fits tightly and snugly equally above and below the knee, and is pulled on by the extension for its whole length, not unduly stretching the leg in one part more than another as with adhesive plaster where the skin is stretched. As the upper part of the thigh is larger than the lower only the limb below the fracture will be extended, and the tendency to angular deformity is thereby prevented. As the leg shrinks as it inevitable does in every case, the buckles are tightened to suit the size of the limb.

2. 8-10 lbs. will usually suffice for the strong, and 6 lbs. for the less muscular subjects.

As bony deposit begins to take place in three weeks, the extension may be removed a few days later if measurements show less than $\frac{1}{2}$ " shortening, and if necessary the patient may be allowed on crutches since

the plaster and limb together give sufficient extension at that time. The limb should be seen as often as possible and measurements taken corresponding to the requirements at the time of setting the fracture; a mark having been made at the tip of the malleolus to recognize the end of the Tibia. Almost perfect immobility is ensured, and a firm grip of the thigh is always possible. The upper buckle should be wider than the others and placed directly over the great Trochanter.

The average time to remove the cast is, for adults, 6 weeks, then massage daily and re-apply till the end of the 8th week, when it may be left off entirely. For children less time is required.

As these fractures are nearly always oblique, better to err in too much than too little time. If suppuration has occurred, three or four months' support may be necessary. If the surgeon possesses good luck his patient will walk with a stick in 8 or 9 weeks. In three months the limb is still weak, in four months the patient may be able to work a little.

Out of 17 cases of fracture coming under my own observation within the last two years, of which I have any record, four belonged to the shaft of the Femur and three to the neck. Those of the shaft are as follows:

J. M., age 23, Jockey, junction of the middle and lower $\frac{1}{3}$, shortening at the time of examination 1", splint removed 6 weeks, 2 days. Amount of shortening, $\frac{1}{2}$ ". General result good.

I. K., age 36, labourer; junction of middle and upper $\frac{1}{3}$ "; shortening at time of injury, 4". In 12 weeks walked with a stick. Total shortening, $\frac{3}{4}$ "; in four months able to work.

T. C., age 6; two places, centre of Femur and Sub Trochanteric, also centre of left humerus (run over by a waggon). Shortening at time of injury, $\frac{3}{4}$ "; splint removed in 6 weeks and 4 days. Total shortening, $\frac{1}{2}$ ".

D. B., age 23, cabdriver, junction of middle and upper third had been treated by extension from knee and short splints for 10 weeks non-union the result with two inches and a half shortening—deformity very marked, encased in plaster Paris firm bony union in 8 weeks. Analysis of my cases give the average shortening, after the plaster of Paris method, as slightly over $\frac{1}{2}$ ", without deformity and good working power.

What are the points of medical-legal interest? The principal ones are:—

1. Non-union.
2. Deformity.
3. Shortening.
4. Loss of working power.
5. Gangrene and Sepsis occasionally.

As oblique fractures are the rule, shortening is, perhaps, unavoidable as no mechanism will prevent some over-lapping of the fragments.

Surgeons who claim none, it always seemed to me must either be favoured with transverse fractures or else stretch their tape a little in sympathy with their imagination, or, in some cases, are a little careless regarding the actual bony points of measurement.

Yet in the last month's edition of *The Railway Surgeon* treatment by Dr. Henniquin's method, of four fractures of the shaft of the Femur, 3 oblique and 1 comminuted, all recovered without shortening. And in the discussion which followed other surgeons claimed equally good results

Gangrene is rarely seen. It is rather the result of injury than tight bandages. By the plaster method, where the splint is opened up its entire length and the toes are free and movable this cannot occur. If it does, the surgeon should pay the cost of his carelessness.

Some loss of working power is more or less inevitable no matter what splint has been used.

If "non-union" occurs, rubbing the ends together under an anaesthetic and encasing in "plaster" has caused strong bony union in one of my cases. If this fails, the bone should be laid bare and the ends united by some approved method as silver wire, screws, pegs or the like, (I have lately done this in a case of gunshot fracture of the humerus and am now awaiting the result.)

The X-Ray apparatus is useful, especially in connection with joints. The plate should only be interpreted by a surgeon and not by a photographer or lawyer who cannot speak with authority, for epiphyseal lines may easily be mistaken for fractures. Again the X-Ray may bring out overlapping of fragments and give a most vivid picture of apparent "mal-union," sufficient to cast the utmost discredit on the surgeon when, in reality, it will satisfy all the requirements of what may be considered an excellent clinical result.

Massage and early movements in suitable cases, shorten the time of repair and lessen the functional inactivity and atrophy afterwards, yet it seems to me, that they should be used with caution in oblique fractures of the Femur where too much interference may destroy what the surgeon is so anxious to obtain.

The question may be asked, "What constitutes a good result in fractures of the thigh, in the opinion of the expert called to the witness box, in cases of malpractice?"

Leaving out extraordinary conditions, following compound cases with suppuration and the like, one reaches the following conclusions:—

1. That more or less shortening is uniformly the result even in the most favourable cases.

2. That as overlapping of the fragments is nearly always inevitable, one inch constitutes a good result, less than one inch excellent. (My cases show only a slight fraction over half an inch.)

3. That slight limping shows shortening of about an inch due to tilting of the pelvis to the injured side, and is not to be considered unfavourable as a result of oblique fractures.

4. That slight stiffness of the joints and atrophy are inevitable in most cases and are of minor importance when bony union has occurred without deformity.

5. That a laboring man will lose 40 per cent. of his working power to the end of 12 months and 25 per cent. to 30 per cent. for the rest of his life.

6. That slight eversion and deformity, if present with good bony union and the ability to walk, are inevitable in some cases no matter how carefully treated.

7. That age is a great factor in giving an opinion. Under 18 years expecting a better result than in strong muscular adults.

8. That a final judgment should not be given for 12 months. The surgeon himself should be prepared to state :—

1. That he has used some approved method of extension and counter extension.

2. That side splints or a cast have been used to prevent lateral movement of the fragments.

3. That some method has been adopted to correct eversion and external rotation of the limb

4. That measurements were applied at the time of the injury and repeated at frequent intervals up to the end of the 25th day by tape or steel, and by the correct surgical methods.

5. That he was careful in recognizing and considering the constitutional condition of his patient, as bearing upon the results, during the treatment.

6. And finally "He should give a guarded prognosis at the time of the injury, keeping in mind the tendency to non-union, shortening, deformity and loss of working power, in all oblique fractures of the thigh.

7. Golding Bird says, "In charges of mal-practice, it is not the beauty of the bone scar that should determine the rights of any particular case, but the clinical result produced by the treatment. It is a sharp edged tool, that may inflict a lifelong injury on the surgeon." In other words, it is impossible to accurately approximate bony ends in the deep tissues without more or less irregularity or overlapping, and it should be impressed on the Court by the medical expert, "that X-Ray pictures" of fractures should carry little weight against strong bony union without manifest external deformity.

MALIGNANT OEDEMA OF BOTH HANDS. RECOVERY WITHOUT AMPUTATION DUE TO THE CONSTANT APPLICATION OF ACETOZONE.*

By MURDOCH CHISHOLM, M.D., L. R. C. P. London.
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JOHN Bambick, age 46, gold miner, married, came to the Victoria General Hospital February the 15th, with both hands, right eye and face scorched and lacerated.

The day before patient was trying to force cartridge of frozen dynamite down into a hole in the rock with a stick of wood. An explosion followed, which scorched and lacerated the patient's hands and face. He was carried to a doctor's office, where his wounds were washed, trimmed by removal of hanging shreds, and dressed. In this condition he came to the Hospital. I saw him three days after the accident. His general condition was good. Pulse and temperature slightly above normal. The patient's face, whiskers and eyebrows were scorched, the conjunctiva of the right eye was partially detached, the cornea opaque and vision absent. Both hands were scorched. The little finger of the right hand was blown off close to the first joint. The top of the ring finger was also blown off. The other fingers were severely bruised and peppered with small wounds. The soft parts of the left hand were badly lacerated in several places. The web of the thumb was severed by a wound which extended deeply into the muscles. The muscles of the little finger were similarly lacerated. There was a pungent smell like burnt hair or horn. The wounds on the hands presented a sloughing surface. They were being dressed by the House Surgeon, Dr. Reynolds, with 1 to 6000 Bichloride solution. I decided to continue this treatment and wait for a line of demarcation. On the 20th the smell became so offensive that the House Surgeon resorted to baths of Permanganate of Potash followed by hot lotions of Bichloride frequently repeated.

For five days after this the temperature ranged between 98 and 100 degrees. The offensive odour continued in spite of Permanganate lotions, but the general conditions remained good and the hands presented nothing more than a sloughing surface on the more injured parts. There was very little swelling and not much redness away from the injured areas. On the 24th the temperature went up over the 100 mark in the evening. On the morning of the 25th it was normal. In the evening it went up to 101 and continued to rise until next evening, when it registered 105 with delirium, and restlessness. The following morning on finding the patient's condition so serious I ordered him to the operating room without examining the hands. On being chloroformed and the

* Read before the Nova Scotia Medical Association, June 2nd and 3rd.

wet dressing removed, I realized for the first time that I had to do with a case of malignant oedema. The odour was intense. The hands were swollen, red and oedematous. The oedema extended over the back of the hands up to the wrists. A red streak ascended up to the elbow. My first thought was to amputate, but I had not obtained the patient's consent. I therefore temporized by removing all sloughs, opening all wounds which had healed, scraping them out and freshly incising the hands where the swelling was greatest. On the back of the hand I made two incisions three inches long, exposing a thick layer of white gelatinous material. I also applied pure carbolic acid followed by alcohol, so much recommended by Powell of New York. In addition I soaked the hands well in 1 to 500 bichloride and 1 to 50 carbolic. Finally I wrapped them up in gauze soaked in a saturated solution of acetozone and covered all with oiled silk.

In the evening after the operation temperature fell to 102 degrees. pulse dropped from 135 to 120. Next day at 2 p.m. temperature rose to 103.8, pulse to 127. Patient very restless. Dressings done every three hours, sometimes every two hours. There was an effort made to soak the hands in the antiseptic for half an hour at each dressing, but it was found hard to do more than liberally wash them with it. The patient was too weak to be propped up in bed without which he could not satisfactorily soak his hands. During the night of the 28th the patient slept several hours. His hands were dressed every three hours and his temperature fell to 102.5.

March the 1st, patient feels better, his delirium is less, his tongue is moist, temperature 102, pulse 124. The nurse on going off duty at night wrote: "Patient passed a fairly good day, complained of hands feeling sore after dressings were done. Talked quite a lot at times." The night nurse wrote: "Patient had a very good night, but is feeling weak."

March the 2nd, temperature 100.8, pulse 128 at 9 a.m. At 6 p.m. temperature 102.2, pulse 105. Redness extending up the arms. Ordered ichthyol 3 drs., resorcin $\frac{1}{2}$ dr., lanolin 1 oz., to be applied up the arms and forearms when being dressed. The oedema still confined to the wrists. It ends in a complete circle a little above the wrist joints. The redness is in the line of the lymphatics and has gone up past the elbows about two inches.

March the 4th, left index finger looks black behind and very much swollen. The tip is shrunken as in dry gangrene. Incised freely.

March the 6th, index finger much reduced in size and more natural in color. The swelling and redness of the hands reduced. Granulations springing up along the sides of the white sloughs which formed along the lines of the first incisions over the oedematous swellings. But red-

ness and swelling have crept above the elbows and are within three inches of the axillæ. Temperature 100, pulse 98.

March the 9th, swelling and redness leaving the arm. Forearms still markedly œdamatous. Fluctuation detected above left wrist behind, opened and a large quantity of gangrenous-smelling pus came away. Syringed with Acetozone full strength, driving it under annular ligament out of both incisions on the back of the hands. Temperature 101 to 102.3, pulse 100 to 90. Ointment discontinued.

March the 12th, abscess opened over the second joint of left thumb, also above annular ligament in front. Pus emits a strong gangrenous odour. Left hand is still shiny, red and œdamatous. The same condition extends over the extensors as far as three inches above the elbow. In front the whole arm and part of the forearm shows the skin shriveled and of a pale natural color. The right hand is very little swollen. Amputation wound nearly all healed. Some pus still oozing from over the metatarsal bone of little finger.

March the 15th, left hand and arm not so swollen. Skin not so red. Made an incision over the inner side of the ulna over a loose and puffy soft spot—no pus, but a greenish white layer of somewhat firm consistence presented instead of the gelatinous white of egg material that formed the body of the œdamatous swelling before mentioned. The right index finger is much swollen and discharging pus. It was slit freely in front, well syringed, and packed with gauze. Left forearm in front quite soft and flabby, evidently from absorption of œdema. Right hand and forearm looking well. Smell still very strong from left hand particularly.

March the 23rd, temperature 102. Has been rising since the 20th when it touched normal. Found several abscesses had formed within the last two days. Opened one extending from the middle of the left arm up to the anterior axillary fold. Opened another on ulnar side of forearm two inches below elbow, and another on the radial side three inches above the wrist. Also opened two abscesses on the right forearm, one on the ulnar side, the other in front of the forearm. All these abscesses were confined to the areolar tissues. The pus from them was not so very strong smelling as it had been. They were surrounded by intense erysipelatous looking borders. They were washed out with a saturated solution of acetozone, and what was very striking was the rapidity with which the undermined skin adhered to the parts below, union being quite firm forty-eight hours after they were lanced, leaving only the skin incisions to heal.

March the 28th., temp. normal since the day after the abscesses were lanced, pulse keeps at 90. Patient looks well. Left arm and forearm are of natural color. Subcutaneous abscesses all healed up to the line of

incisions and these covered with healthy granulations. Size of hand very much reduced. Redness and oedema still persist, and some odour. Size of thumb and index finger not much reduced. Right arm natural. Right forearm fairly natural. Redness and swelling persist about stump of little and right finger, also up back of hand along ulnar border. Ring finger very much swollen.

April the 1st., temp. up to 101, pulse 116 for the last twenty-four hours. An abscess eight inches long and two inches wide was formed above the left elbow during the last twenty-four hours. The whole posterior aspect of the arm very red and swollen. Lanced and syringed with acetozone. Right ring finger still red and swollen.

April the 5th, since the 2nd, temp. between 98 to 99. Both arms of normal size, forearms nearly so, hands reduced in size. Incisions all closed but the last and that on right index fingers, both of which are healing well.

April the 8th, temp. 101, gone up since yesterday. Right hand much swollen, red and oedematous. Swelling extends from stump of little finger to the middle of forearm. An abscess has formed over the stump—lanced—characteristic odour obtained. Well syringed with acetozone.

April the 9th, temp. normal and with slight variations so continued till the 21st, when all local applications were discontinued. Some cedema still persisted, but the patient was encouraged to use his hands and expose them to the sun in the hospital ground as much as possible.

Remarks—As far as I know this is the first case of malignant oedema that has ever been saved without amputation. Too often indeed they have succumbed even after amputation. This case was saved by hard fighting, and every now and then when we thought every bacillus killed they would start again with frightful virulence, large abscesses forming in the course of twenty-four to thirty-six hours. It may be asked then why depart from the surgical rule of early amputation in this case?

In answer I have to state that after his temperature went up I did not see his hands till he was under chloroform, ready for what I expected a simple operation. As soon as the bandages were removed I recognized the trouble from the oedema and smell, together with the virulence of the local condition and severity of the general symptoms. But my patient being under chloroform I could not obtain his consent to amputation, so I decided to lessen, as far as possible, the focus of infection for that day, and possibly amputate the next. But next day the fall in temperature, the improved appearance of the hands, the dread of sending a poor laboring man out into the world with two stumps, as well as a

desire to test the antiseptic properties of acetozone, which I found excellent in other cases, saved the patient from a double amputation.

While a student and also in my practice I had met with four cases of malignant oedema. Sir William McCormic amputated a thigh of one of these with what result I do not know, for I did not see the case afterwards. But at the operation he emphasized the gravity of the condition especially in the lower extremities. Another case in the practice of Dr. Fraser, Newfoundland, arose from a slight wound of the thumb. He amputated above the elbow and saved the patient's life. Another was a young child in the practice of a city physician, who would not consent to amputation and death of course promptly occurred. The fourth case was my own. It arose from an abrasion on the leg treated by the application of sticking plaster, and neglected. The exclusion of air gave the bacilli full chance to put in their work, and though the thigh was amputated the stump became infected and death quickly followed. It was not therefore without fear and trembling that I waited in this case. I greatly feared that the patient would have to pay up for my waiting by a high amputation or loss of his life. But seeing the beneficial effects of the antiseptic from day to day, I continued to wait and combat signs as they arose. The bacillus being anaerobic and acetozone being a powerful hyperoxide I applied it unsparingly, hoping that enough oxygen would be absorbed through the incision and skin to destroy the bacilli. The dressings extended up to the armpits. The average quantity of lotion daily used was six gallons. At one time the supply ran out and we resorted to bichloride, but the hands, forearms and arms became so inflamed and angry looking that I wired Parke, Davis & Co. at once for more acetozone. It was promptly sent, but fortunately for the patient I found a sample bottle which had been left with Dr. Stuart, and used it with very perceptible benefit.

A word as to diagnosis.—The disease is rare and apt to be overlooked. It has two marked characteristics. The smell and oedema. The smell is very pungent and is compared with burnt horn. The oedema is striking. It results from a free exudation of white jelly-looking material in the areolar tissues. Several times I buried my thumb out of sight when looking in the long axis of the limb. The swelling is not therefore a brawny hardness in this disease, not at least before gangrene of the parts supervene. From the fact that the left index finger in this case had turned black, that its tip shrank irregularly as in dry gangrene, and that all this disappeared on freely incising the finger I believe the rapid onset of gangrene is largely from pressure. Another characteristic of this disease is its frightful virulence and resistance to all previously known remedies. It is generally also accompanied by the formation of

hydrogen which gives a crackling sensation when pressed upon. This was absent in my case.

My treatment was free incisions into the oedematous swellings and the constant application of acetozone which is a most powerful hyperoxide and germicide. I append hereto the pathologist's report.

BACTERIOLOGICAL REPORT.

March 1st. I accompanied Dr. Chisholm to the Hospital and made four cultures directly from the discharge from the sinuses.

These cultures were on blood serum, gelatin slope, agar slope and glucose agar. At the same time I made three cover slip preparations and examined immediately. These were stained with weak carbolfuchsin, alkaline methylene blue and gentian violet respectively.

In all of these I found a staphylococcus streptococcus and a bacillus. The bacillus was comparatively large but I was not able to make out the characters very definitely on account of the other germs which were by far the more numerous.

The cultures were grown anaerobical in Buchner tubes. The blood serum and agar ones being incubated and the gelatin kept at room temperature. On the third day I examined the gelatin and one agar culture.

Cover slips made from them showed a bacillus of fairly large size, which was easily stained, had rounded ends and a spore in the middle. The culture gave a very disagreeable odour.

The other cultures continued to grow and formed rounded colonies with a formation of gas. These will be reported on later.

Taking the microscopical and culture characters together I have no hesitation in saying that the bacillus was that of malignant oedema.

(Signed)

A. HALLIDAY,

Provincial Bacteriologist.

Nova Scotia.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MacKENZIE, B.A., M.B.

PERIPHERAL VENOUS THROMBOSIS IN PNEUMONIA.

THE June number of the *Johns Hopkins Hospital Bulletin* has an article on this subject by W. R. Steiner, M.D., with an abstract report of three cases observed in Johns Hopkins Hospital. The condition is a rare one, only three cases being found in 500 at this hospital, and only thirty-eight in all being found in the literature, yet the blood conditions are such as would lead one to expect thrombosis. In the majority of the cases, twenty-seven out of thirty-two, it occurs during convalescence, and so is rather a sequela than a complication; the lower extremity is always involved, most frequently the left femoral vein, and most frequently somewhere in the left limb. This may be due to the greater length and obliquity of the left common iliac vein.

THE OPEN METHOD OF TREATING SEPTIC ARTHRITIS OF THE KNEE.

IN the British Medical Journal of June 21st, Mr. Walter Whitehead gives the history of a case in which after operation for removal of the internal semi-lunar cartilage acute sepsis set in, and in spite of free drainage and irrigation the patient became rapidly worse until the condition was critical—temperature 103°, rapid pulse, delirium and extreme exhaustion. Amputation at the thigh seemed indicated but the patient was given the option of taking the risk of an open operation and accepted the chance.

The details of the operation were as follows:

- (1) A transverse incision was made through the skin over the centre of the patella.
- (2) The patella was sawn across in a line corresponding with the skin incision.
- (3) The joint was fully flexed and thoroughly opened and the crucial ligament divided.
- (4) All exudations on the surfaces and in all the cavities of the joint were carefully scraped away with a surgical spoon and immediately afterward all the surfaces were freely swabbed with lint saturated with turpentine.
- (5) The whole of the exposed surfaces and every crevice, was gently packed with iodiform guage.

(6) With the joint well flexed (beyond a right angle), layers of wood—wool were so adjusted by bandages that they not only afforded a compact support to the back of the knee, but also acted in firmly retaining the knee in an acutely flexed position—a position that made it all but impossible for any discharges to accumulate without bringing them in contact with the iodoform gauze packing.

The immediate result of the treatment was seen in the disappearance of pain, subsidence of the temperature and delirium, return of appetite, and sleep. When the dressings were removed in two days the wound was clean and healthy granulation had begun. On the fifteenth day after the operation the leg was straightened and a back-splint applied, and finally when the granulations had restored the natural contour of the knee the surface was skin-grafted. The advantages of this method are the saving of the limbs and perhaps of the life. The essential part is the absolutely free opening and complete cleansing of the cavity.

THE ANATOMY, PHYSIOLOGY AND PATHOLOGY OF THE IMPERFECTLY DESCENDED TESTIS.

THE Hunterian Lectures, delivered before the Royal College of Surgeons, of England, by W. McAdam Eccles on the above subject are reported in several of the English journals for March. Some of the most important points brought out by the lecturer were as follows: The human testis may be arrested at one of several points in the route of its normal descent, viz., within the abdomen, in the inguinal canal, just below the superficial abdominal ring, or in the higher part of the scrotum; these constitute non-descent, partial descent or retention; or, having proceeded as far as the inguinal canal, it may pass into various abnormal positions, constituting abnormal descent or ectopia. The conditions which have been considered to be the causes of the arrest of the human testis may be classified as follows:—

(a) Conditions associated with the mesorchium: (1) The mesorchium too long, the testis would then hang too freely in the abdominal cavity, and would thus be prevented from engaging the ostium of the processus vaginalis; (2) adhesions between the peritoneum forming the mesorchium and the adjacent portions of the serous membrane; (3) abnormal persistence of the plica vascularis.

(b) Conditions associated with the testis and its component parts: (1) The spermatic vessels too short; (2) the vas deferens of insufficient length; (3) the epididymis abnormal in size; (4) fusion of the two testes; (5) certain forms of hermaphroditism.

(c) Conditions associated with the gubernaculum testis: (1) Absence of the upper normal attachments of the gubernaculum; (2) deficiency of its muscular fibres; (3) deficiency or absence of its scrotal attachments.

(d) Conditions associated with the cremaster: (1) Retraction of the testis after it has descended to its usual habitat in the scrotum; (2) want of action of the internal fibres of the cremaster before the testis has reached the inguinal canal.

(e) Conditions associated with the route: (1) Ill development of the inguinal canal; (2) ill development of the superficial abdominal ring; (3) ill development of one half of the scrotum.

(f) Other conditions, such as the wearing of a truss, preventing the onward passage of the organ into the scrotum.

There are probably only two causes of the abnormal descent of the human testis, viz.: It may be drawn into its unusual position by the traction of certain sets of fibres of the gubernaculum testis, or it may be pushed into its abnormal site by an advancing hernia.

In whatever position the testis is found, the cord can practically always be traced through the femoral ring; it takes with it a process of peritoneum termed the processus vaginalis testis, if it remains connected with the general peritoneal cavity; the tunica vaginalis, if it is shut off from the same. The imperfectly descended testis as a rule shows failure in development in size, cellular development or physiological function; generally there is no evidence of spermatogenesis. The bearing of testicular development on the general condition of the person with regard to mental and bodily virility is interesting and important; but nothing can be said authoritatively beyond the statement that there is a connection of some kind, whether casual or merely coincident between this physical condition and those states of mental and physical weakness known as cretinism. One must note, however, that this is only true for those cases where the condition is congenital.

As a rule the accessory genital organs share the mal-development with the testis, chiefly the prostate, the vesiculæ seminales, Cowper's glands and the penis. Not uncommonly there may be associated a tendency to approximate the female model in pelvis, mammae, or even in sexual instinct.

The imperfectly descended testis is liable to inflammation due to (1) traumatism; (2) extension of inflammation from the urethra; (3) secondary acute inflammation in certain cases of parotitis; (4) deposit of the tubercle bacillus; (5) syphilitic infection. Traumatism is a frequent occurrence owing to the exposed position of the organ, from application of a truss, or from torsion of the cord. The effect of such inflammation may be atrophy, hypertrophy, fibrosis, hydrocele, rarely suppuration. Torsion gives extreme pain, congestion, atrophy, or even gangrene.

The imperfectly descended testis may be marked by the development of cysts of the following classes: (1) Cysts formed upon the epididymis; (2) cysts found in testis proper; (3) cysts due to foetal remains; (4) dermoid cysts, teratomata. The new growths affecting the testis in this position are the same as in the ordinary position, viz., sarcoma and carcinoma. Of these, the former, while quite rare, is the more frequent; it is generally of the round-celled variety, and may be preceded by some traumatism. Hydrocele is a common complication, and may be of various forms according to the relation of the processus and the testicle to the surrounding tissues, as inguinal, scrotal, bilocular and trilocular, perineal, and in Scarpa's triangle.

The pathological condition most frequently associated is hernia. Hernia occurs in more than half the cases of imperfectly descended testis, and in many cases it is congenital, showing that it is due to the existing continuity of the peritoneal sac with the processus vaginalis. Five varieties are described, viz.: Inguinal hernia, bubonocoele, interstitial, cruro-scrotal, and superficial perineal. The first is the most frequent. The names of these indicate sufficiently their respective positions.

REPORT OF THE PASTEUR INSTITUTE OF NEW YORK,
1900 AND 1901.

THE report of the Antirabic vaccinations at the New York Pasteur Institute for 1900 and 1901 is given in the *Medical News*, April 5th, 1902, and is a most interesting and valuable contribution to our knowledge on this subject.

On the whole 241 persons were treated, with one death, a mortality of 0.41 per cent. There were also two deaths within fifteen days after the treatment which are not included in the statistics. The reason for this is that from experiments on dogs it is concluded that the nervous centres of persons who die of rabies within fifteen days following the end of the treatment have been affected by the rabic virus before the treatment could have exerted its full effects.

In 50 out of 88 cases the diagnosis of rabies in dogs was made by microscopical examination of the cerebro-spinal ganglia of the animals, supplemented by experimental inoculation; in all but one the characteristic histological lesions of rabies were present, and in this case the result of inoculation was also negative. With regard to the interpretation of the histological examination the rule is as follows: When the result is positive—which is the rule when the dog dies of the disease—it can be stated positively that the animal was rabid; but when the result is nega-

tive—which is frequent when the dog is killed as soon as it has bitten—one has no right to affirm that the animal was not rabid; the diagnosis remains uncertain, and the strict duty of the veterinary surgeon is, now as well as in the past, to advise the bitten person to go to the Pasteur Institute.

Among the clinical symptoms upon which we usually establish the diagnosis of rabies, as in the cases referred to in the article, are the following:—

1. Change in the disposition of the dog.
2. Unusual manifestation of attachment to its master.
3. Disappearance from its home for from several hours to two days.
4. Change in the bark—or total absence of barking even on provocation.
5. Lack of appetite, difficulty in chewing and swallowing solid food.
6. Excitement and hallucinations; animal snaps at imaginary objects, may attack its own master. Excitement caused by the sight of another dog. (This stage may be absent in the dumb form of the disease.)
7. Animal eats its own bedding, tears cushions, carpets, etc.
8. Inability to eat; animal takes food in mouth, but it drops out after one or two attempts at swallowing; drinking, however, is little or not interfered with and there is no hydrophobia.
9. Unsteady gait, which shows the beginning of paralysis of hind legs. Dilated pupils.
10. Later; paralysis of lower jaw, general paralysis.

The treatment which is practically that adopted at the Paris Institute, consists in subcutaneous and intra-venous injections of emulsion of the cord. In ordinary cases coming for treatment within one week after the accident the treatment is given during eighteen days, in cases of bites on the head or if more than two weeks have elapsed the treatment is given for twenty-three days or more.

A valuable outline of the course to be followed when a person has been bitten by a dog or other animal susceptible to rabies is given as follows:

The first thing to be done, then, when a person has been bitten by a dog is to remember that the animal is our “star witness,” and that without it we have no evidence. Naturally, the evidence must not be destroyed and the dog should not be killed. If possible, it should be kept under observation for a few days. Roux demonstrated several years ago that the saliva of a rabid animal may be virulent three days before the appearance of any symptoms of the disease. But the inexperienced observer may not notice these first symptoms and we follow the rule established here by our regretted Dr. Gibier: We recommend that the dog be kept in confinement and carefully observed *for at least one week*. If the animal has already shown signs of disease, our advice is the same; it must not be killed, for, as we have mentioned in our “Remarks on

Diagnosis," the lesions which allow a diagnosis to be made within twenty-four hours may not be present in the early part of the disease. As soon as the animal dies, its head and neck should be cut off (as near the shoulders as possible) and sent to the nearest laboratory to have the crucial tests made. If this be impossible, the brain and the medulla should be carefully taken out and pieces of each put into two clean bottles, one containing 95 per cent. alcohol, the other pure glycerin. The material will then be in good condition for examination and inoculation after several days. The diagnosis should be made as quickly as possible, as the treatment must always be given early. In cases of bites on the head, the dog may be killed as soon as it shows well-marked symptoms of paralysis and the brain and medulla extracted; several hours and from two to three days in dumb rabies may thus be saved—a matter of great importance.

Of course, when the dog has disappeared, one must rely on clinical symptoms; inquiry should be made as to its whereabouts, its behaviour; whether it had been bitten by another animal some time before, whether cases of rabies have been reported in the vicinity, etc.

As to the patient's wounds, little need be said. However, we must express our opinion as regards cauterization. *It should never be relied upon.* This does not mean that we advise against cauterizing a wound inflicted by a rabid dog; indeed, it has been shown that *immediate* cauterization with the cautery (actual or thermo-) or with fuming nitric acid, will often destroy all the virus inoculated; if it does not afford an absolute safeguard, it will at least tend to increase the length of the period of incubation, and this is important if the patient cannot reach an Institute within a short time. But if the wound cannot be treated in this way within one hour, it is much better to treat it antiseptically, as any other infected wound; an application of tincture of iodine has been recommended by Babes; the wound should be washed with a solution of carbolic acid to which a little 95-per-cent. alcohol is added, or with any other good antiseptic solution, and either a wet or a dry dressing applied, according to the size and nature of the wounds. Nitrate of silver is worthless in these cases. In any case the person should be urged to undergo the preventive treatment if this is thought advisable.

As to the danger from the treatment, it may be said that the antirabic treatment may cause slight nervous disturbances in neurasthenic and hysterical persons; these disturbances, however, have never been serious and they are extremely rare.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MacKAY, B.A., M.D., Montreal.

The convention of the American Medico-Psychological Association held in Montreal during the latter part of June proved to be the most successful in the history of the society, both in regard to attendance, and, to the number and variety of the entertainments provided.

On the opening day, June 17th, the delegates were welcomed by Lieut.-Governor Jette on behalf of the citizens of the Province of Quebec and by Mayor Cochrane on behalf of the citizens of Montreal. An address of welcome was then read by Dr. Armstrong the president of the Montreal Medico-Chirurgical Society. Several items of regular business were then transacted, after which the President, Dr. R. J. Preston, of Marion, Va., delivered the annual presidential address. Dr. Preston gave an exhaustive statistical record of the rise and progress of insane asylums in the United States and Canada, together with an able review of the efforts made at various times in the world's history to alleviate the condition of the insane. The past century, he said, had been one of wonderful advancement and not the least notable feature of that advancement had been the progress made in methods of treating the insane.

At the evening session, Dr. Adolf Meyer read an exceedingly interesting and practical paper entitled: 'A few important terminal diseases of Melancholia.' The paper was based on the post-mortem findings in thirty-six cases of melancholia. After excluding those who died of lobar pneumonia, suicides, etc., he took up some fourteen cases of broncho-pneumonia, four of infarct of the lung, two of perirectal abscess, one of suffocation, the text of the paper being devoted to a discussion of central neuritis.

Many of the cases of broncho-pneumonia could be directly traced to forced feeding, and Dr. Myers considered it of the utmost importance that great care should be taken in administering food by the tube. In similar cases rectal feeding was often necessary, and here too he thought that more than ordinary care was necessary, on account of the well known vulnerability of the tissues in such conditions. The two cases of perirectal abscess which he reported having led to gangrene and death.

In the cases of pulmonary infarct, all died comparatively suddenly, the majority were walking about at the time of the onset, and, in these cases, death might have been averted by rest in bed; but in one case the patient was lying perfectly still in bed when death suddenly occurred. The case of suffocation was interesting, because the patient in question had been in good bodily health until a short time before death, when he had an attack of dysentery. This weakened him considerably, and he

began to show signs of palpitation and irregularity of the heart. One morning he rose to go to the lavatory and was found there shortly afterwards, doubled up on the floor, quite dead. The post-mortem revealed ecchymotic spots about the pleura-pericardium, and it was concluded that the patient died from suffocation, following a syncopal attack.

In the case of central neuritis, we have an interesting addition to the cases previously reported by Turner and Meyer; and the conclusions, already arrived at, are again confirmed by the post mortem findings. Dr. Meyer considers that the symptom-complex of this terminal affection is very characteristic. First, the patient becomes weaker, then muscular twitchings with rigidity supervenes, athetotic movements of the fingers are present, reflexes are usually increased, and the face is drawn into a *risus sardonicus*. The onset of these symptoms is, as a rule, a swift precursor of death, although, in some cases, several attacks may be withstood before death steps in. No gross changes can be made out in the nervous system after death, but microscopically the characteristic lesions are found, more especially in the medullary centres and mid brain, although they are also found to some extent in the grey matter of the cord, and least of all in the spinal ganglia.

The paper by Rev. James Buckley, D.D., LL.D., which was read at the morning session on Wednesday, proved to be one of great interest, and a vote of thanks was passed to the author, together with the expression of a hope that the address would be published and widely distributed. "The possible influence of rational conversation on the insane," was the title, and Dr. Buckley gave instances, from his own experience, showing that the mentally afflicted could, in almost every case, be benefited by rational conversation.

Litigious insanity was discussed by Dr. Lane, the paper being of interest chiefly on account of his remarks upon the difference between legal and medical insanity, and the consequent difficulty in reconciling judgments with medical expert evidence.

At the evening meeting, Dr. Wesley Mills read the annual address. The subject was a consideration of reflexes versus voluntary acts in man and the lower animals. Dr. Mills emphasized the fact that a great many actions, usually considered as voluntary, were in reality reflexes, not intentional but instinctive. He also touched upon recent discoveries in the histology of the nervous system. The lecture was illustrated by living specimens and lime-light views.

On Thursday morning Dr. Kidder, in his paper on "Care of the Insane in Brazil," gave a good account of the asylums in that country. He considered that they were, on the whole, as far advanced as in North America, although, in a few instances, they were distinctly below the

average. He thought that excessive coffee drinking, and far-reaching immorality, were the direct and indirect causes of most of the insanity in Brazil. Dr. Richardson followed with a paper on "Women Nurses in Hospitals for the Insane." There was a description of what had been done in the training of nurses at Washington, a training which was thorough and which enabled the nurse to understand, in great measure, how best to supplement the medical care which was given by the doctors of the institution. Dr. Richardson said that the female nurses had a more tranquilizing effect upon the patients than men. When women went about among the male patients there was less noise, there was less swearing, there was a feeling of respect, and experience proved that no insult had ever been addressed to women nurses. Orderlies, for the heavy work, could not of course be dispensed with, but the men regarded the work as temporary employment and it was not a regular profession to which they would give their lives. In so far as women nurses had been tried among male patients, the experiment had proved a great success. It might be said to be only in its infancy, but the results had been so satisfactory that he could heartily recommend its extension.

At the afternoon meeting, considerable discussion followed the paper by Dr. Hattie on "Education in the Development of Self control," and the opinion of the majority appeared to be that the multiplicity of subjects taught in schools tended to decrease the pupil's power of concentration, and hence his self-control.

The last session was held on Friday morning, when two papers of a similar nature were read. These were "Sanitation in Asylums for the Insane with Special Reference to Tuberculosis," by Dr. McCallum, and "Tent Life for the Tuberculous Insane," by Dr. Haveland, of the Manhattan State Hospital.

The first paper advocated isolation in small detached cottages as the only means of lessening the ravages of consumption, which was so prevalent among the insane. The second paper showed the beneficial effects of tent life upon consumptive patients, and the author thought that the experiment was worthy of trial on a large scale. It could be maintained, even in cold weather, with proper heating appliances. The patients gained in flesh, they looked better, and the fresh air and good food had effects which made for recovery in those in whom the disease was incipient, and for the benefit of those who were too far gone to hope for ultimate recovery.

Before the conclusion of the meeting Dr. Blumer, the president elect, was introduced by the retiring president, and the announcement was made that the next convention would be held at Providence, R.I., in May, 1903.

The last meeting of the Montreal Medical Society, for the present session, was held on June 27th, with a very full attendance. Drs. Armstrong and McTaggart showed a specimen of inflammatory anastomosis between gall-bladder and duodenum. This was caused by pressure from a large gallstone which was removed from the intestine. At the operation the abdomen was found to contain a quantity of faecal matter, which had escaped from a perforation in the intestine, caused by a pressure slough from the gallstone, although the stone itself was found several inches lower down.

Dr. Lafleur then read a report of two cases of sporadic typhus fever. The first case was a female, aet. 31, who was removed from very unhygienic surroundings to the Montreal General Hospital, on March 25th, 1902. She had been seized twelve days before, with chills, vomiting and diarrhoea. On examination, she was found to be a well nourished woman, with a very apathetic expression. Temp. 100 $\frac{2}{3}$, respirations 44, pulse 144—small and low tension. The lungs and heart were normal, there was no Widal reaction, although there was a leukocytosis of 15,000. Over the body there was a fine punctate rash, rather darker than the rose spots of typhoid. In addition there were several fine petechiae on the hips, and the whole trunk was covered with a mottled, purple erythema. The urine contained albumin and casts. By March 29th, the patient had improved considerably, and, from the 15th to 18th day of disease, the temperature fell by rapid lysis, the rash faded, and the patient made a good recovery.

The second case was the husband of the first patient, and he presented a very similar picture, the disease following the same course. The rash was more extensive and the purpuric spots larger, but the main features,—rapid respiration, high temperature, weak rapid pulse, delirium, and albuminuria, were present.

On the 15th day, the temperature fell, by crisis, and the patient rapidly became convalescent.

The differential diagnosis was fully discussed, and the rarity of the disease, under present conditions, commented on, the last case reported in Montreal, having occurred in 1877.

After Dr. Deeks had given a summary of a case of Addison's disease with improvement under supra-renal extract, Dr. Blackader read a very complete and useful paper on recent advances in infant feeding. This was followed by an animated discussion on the relative merits of modified milk, modified whey, and the various prepared foods.

During the course of the meeting, when all the members had assembled, Sir William Hingston read a memorial notice, an eloquent tribute to the worth and character of the late Dr. Wyatt Johnston. It was unanimously resolved to have it placed on record and a copy sent to the wife of the deceased.

MARITIME TOPICS AND NEWS.

Conducted by W. D. FORREST, M.D., Can., L.R. C.P. Lond., M, R. C. S. Eng., B.Sc. Halifax.

NOVA SCOTIA MEDICAL ASSOCIATION.

THE thirty-fourth annual meeting of the Nova Scotia Medical Association was held in the United Church Hall, New Glasgow, on July 2nd and 3rd.

The meeting was in many ways the most successful one in the history of the association. It was called to order by the president, Dr. John W. Mackay of New Glasgow, at 2 p.m. and after hearing the reports of the several committees, the meeting proceeded to appoint its representatives on the Provincial Medical Board. The result of the ballot was the appointment of the following gentlemen:—Dr. Wm. Tobin, Halifax; Dr. D. A. Campbell, Halifax; Dr. John Stewart, Halifax; Dr. M. A. B. Smith, Dartmouth; Dr. H. K. MacDonald, Lunenburg, and Dr. D. McIntosh, Pugwash. The new members of the Board are Drs. MacDonald and McIntosh, who take the places made vacant by the retirement of Drs. Black and Webster.

The president then called upon Dr. H. P. Clay of Pugwash, who read a carefully prepared paper "On Several Inconsistencies." Dr. Clay referred to injustices frequently done the profession by the public, and particularly by large corporations. He cited several cases of his own and of other practitioners who had been shamefully treated in the way of remuneration for services rendered. Reference was also made to the different ways in which medical men are imposed upon. After a discussion by several gentlemen a committee was appointed to look into the matter and report at the next meeting.

Dr. H. MacKay's paper on "Insomnia" was listened to with interest by the meeting. It was full of original and scientific suggestions as to the treatment of the condition.

The evening session opened with address of welcome on behalf of the citizens and town council by Adam C Bell, Esq., Picton's representative in the Dominion Parliament. Mr. Bell is an excellent platform speaker and his remarks were timely and well suited to the occasion. Fitting reference was made to the recent illness of our sovereign King Edward VII, and the hope expressed that his recovery would be rapid and uninterrupted. Dr. Chisholm of Halifax replied on behalf of the visitors.

Dr. J. W. Mackay then read the presidential address. He referred feelingly to the death of their late secretary, Dr. W. S. Muir, of Truro. To Dr. Muir much of the success of the society was due. Almost the last thing he was heard to say as he lay on his dying bed was to express regret that he had been unable to complete the programme for this meeting, but that he hoped it would be the most successful in the history of the association. Although he was not spared to be present at it, his wish was fulfilled. It was the largest attendance since its formation—fifty-seven members registering—the next largest being at the Amherst meeting, where forty-eight members were present. Dr. Mackay then gave a history of the Aberdeen Hospital since its construction. He advocated the establishment of college hospitals throughout the province and spoke sympathetically with the movement to build a hospital in Truro as a memorial to the late Dr. Muir.

A discussion on vaccination then took place but nothing new was added to the literature on the subject. Dr. A. P. Reid gave a history of vaccination and Dr. Moore, of Kentville, referred to the recent outbreak in his part of the province.

Thursday morning the session opened with "An Address on Surgery" by Prof. G. E. Armstrong, of Montreal. This paper took the form of a retrospect. Reference was made to the use of the X rays in surgery. In cases of fractures and particularly in cases of dislocations in which fractures may be associated it has proved invaluable to the surgeon.

The open method of treating fractures was also discussed at length. In certain cases where in spite of every attempt the fragments cannot be brought into apposition or where for some reason the soft tissues get between the ends of the bones and prevent them being brought together—the surgeon is justified in exposing the seat of fracture and adopting means to fix the fragments in position.

Suturing of arteries and the opening of the abdomen for exploratory purposes were also referred to.

Then followed some remarks on surgery of the cranium.

At the afternoon session Dr. Finlay gave the address on "Medicine." He dealt with modern methods of diagnosis more particularly and referred especially to the use of tuberculin for diagnostic purposes.

A most excellent paper and certainly one of the best read at the meeting was that by Dr. W. H. Hattie, Supt. of the Nova Scotia Hospital, on "Mental Disturbances During the Puerperium." It was carefully prepared, scholarly and abounded with practical suggestions throughout.

In giving an account of this meeting we must not forget the social part of the programme, which on these occasions is by no means the most unimportant.

On Wednesday afternoon the members were invited to a garden party on the grounds of Mr. P. A. MacGregor. Here the youth and beauty of New Glasgow were assembled and everything possible was done to make the visitors enjoy themselves.

Thursday afternoon some of the members visited the steel works while others were driven to Fraser's Mountain, from the top of which an excellent view is obtained of the whole county. Northumberland Strait with Prince Edward Island on the other side could be seen off in the distance. The day was fine and clear and the scenery was much enjoyed by those who took in this part of the programme. In the evening a banquet was given by the Picton County Association which was largely attended.

The next meeting of the Society takes place next July in Antigonish.

The officers appointed for the ensuing year are as follows: President, J. J. Cameron, M.D., Antigonish; 1st Vice-President, W. G. Putnam, M.B., Yarmouth; 2nd Vice President, M. Chisholm, M. D., Halifax, and Secretary-Treasurer, Huntley McDonald, Antigonish.

PERSONAL.

William D. Currie, M.D., (McGill, 1902), intends practising his profession in Lunenburg, N. S.

Dr. F. U. Anderson, of Halifax, who has been for the last three weeks visiting Montreal, has returned.

Dr. E. B. Roach, for the past year a house surgeon at the Victoria General Hospital, has opened up an office in Tatamagouche, N. S.

John Mackenzie, M.D., (Dal. 1902), has entered into partnership with his father, Dr. Mackenzie, of Picton, N.S.

Dr. E. D. Roche, of Tatamagouche who has been indisposed for some time, is improving, but still unable to attend to his work.

Louis P. Farrell, M.D., (Dalhousie '99), M.R.C.S. Eng., of Halifax, Nova Scotia, is at present in the Indian Medical Service. He is stationed at Bombay. Dr. Farrell is a son of the late Dr. E. D. Farrell, of Halifax.

Dr. W. W. Chipman, of Montreal, recently visited Nova Scotia. While in the province Dr. Chipman took advantage of the trout season and spent several days at the lakes in the vicinity of Halifax.

Dr. John F. Black, of Halifax who for the past six months has been visiting places in Southern Europe, is at present in Vienna. Dr. Black, after spending some time about the hospitals of this famous old city, leaves for Britain, where he purposes putting in the winter

Major G. C. Jones of the Canadian Field Hospital, at present stationed in South Africa, leaves Cape Town shortly for London. It is understood that Dr. Jones has accepted a commission in the Medical Department of the Imperial army.

During the month of June, medical men in the maritime provinces figured rather prominently in the marriage columns of the daily papers. On June 2nd, Dr. W. H. Eager, of Barton, Digby County, was married to Miss Constance Hill, late of the Victoria General Hospital nursing staff. On June 3rd, Dr. George Gandier, of Picton, was married to Miss Annie Dickson, of St. John. On June 11th., Dr. Hector Mackay of New Glasgow, was married to Miss Christina Millar, of St. John, late of the Aberdeen Hospital nursing staff. On June 11th, the marriage of Dr. L. W. Branie, of Hackett's Cove, to Miss Jessie Graham, of Bear River, took place. Dr. T. M. O'Sullivan, of Glace Bay, was married, on June 12th, to Miss Cassie MacLean, of Antigonish. On June 29th, Dr. L. J. O'Shaughnessy, of Halifax, was married to Miss Louise Gladwin of Windsor.

CLINICAL OBSERVATION OF A CASE OF TYPHOID FEVER.

THE "L'Union Médicale du Canada" (May number) has a report by Dr. J. A. Le Sage of an interesting and instructive case of typhoid fever, which is a forcible reminder of the necessity of making use of all means of diagnosis in obscure cases.

The patient was a servant girl, young and of unimportant history. She was taken with vomiting, which prevented her working. A doctor was called, gave an emetic, and she was soon better. Three days afterwards she had another attack, and the same treatment was adopted. Some days after she complained of feebleness, slight diarrhoea, but no attention was paid to this; it was called hysteria, this idea was heightened by the fact of some nightly delirium. An examination made showed blood on the genitals, and the conclusion was arrived at that there had been criminal abortion. She was sent to the Notre Dame Hospital, where she fell into a coma. Examination showed accelerated respiration and pulse, insensitive cornea, traces of blood at nose, mouth and other openings, the abdomen swollen and tender, the bladder distended with urine, which on examination was laden with albumen. She died three hours after admission. The Widal reaction was positive. The post-mortem gave all the pathologic evidences of typhoid attended by hæmorrhage. The diagnosis was made, but too late. The mistake of the first attendant, while indefensible, might often be made; the lesson the writer enforces is that in every case all the resources of clinical and laboratory methods should be called in requisition.

DISEASES OF THE EYE, EAR, NOSE, AND THROAT.

Conducted by PERRY G. GOLDSMITH, M.D., Belleville,
Fellow British Laryngological, Rhinological, and Otological Association.

EMPHYEMA OF THE MAXILLARY AUTRUM IN AN INFANT NINE MONTHS OLD.

STEWART Shirlow, in the June Journal of Laryngology gives notes on this case. A swelling of two or three days duration was present on the left cheek, associated with a free discharge of pus from the corresponding nostril. A fistulous track was discovered in the alveolar border of the upper jaw, leading into the autrum in which was found the perfect crown of a molar tooth. The opening was enlarged and the crown removed.

The antiseptic lotions, used in the alveolar opening, came away freely from the nose. The case is cited for its rarity, and to set at rest any doubts as to the occurrence of this disease in infants.

REPORT OF AN EXAMINATION OF THE EARS, NOSE, AND THROAT OF 1,000 SCHOOL CHILDREN.

IN the June number of the *Journal of Laryngology*, Mr. Arthur Cheatte, F.R.C.S., gives the results of some eight months work in examining the ears, nose and throats of 1,000 school children between the ages of 3 and 16 years, from one of the poorest districts of London. The object of the examination was, in the investigator's own words, "to ascertain what proportion of children suffer from diseases of the ear, in order that attention might, if necessary, be drawn to the subject, and that as so many of the dangers of life and hearing have their origin in childhood, means might be taken to guard against them during that period of life." Simple tests for hearing were used in all cases, the whispered voice being principally employed. The tuning forks' tests were taken when necessary, and the politzer air bag was used to strengthen the diagnosis.

The nose and throat were examined in all; while, in those whose ears were affected, the condition of the naso-pharynx was invariably investigated. The importance of a thorough examination of the naso-pharynx is shown in the tables accompanying the paper, wherein it is stated that, out of the 1,000 cases examined, there were 247 cases of post suppurative middle ear trouble, in which either enlarged tonsils, or ade-

noids, were present; generally, however, both existed. There were 166 cases of depressed membrani tympani; and, of these, the naso-pharynx was affected by enlarged tonsils, or adenoids, in 141 instances. Nothing could show more clearly the relationship that exists between the ventilation of the tympanum and the condition of the naso-pharynx.

Summing up it was found that

(1) The ears were normal in	432
(2) The external ear was affected in	49
(3) The middle ear in	518
(4) The internal ear in	1
	1,000

The hearing, as tested by whispered voice at 18 feet, was deficient in 520 cases, in one or both ears. A very important point is that this was not noticed by the teacher in many cases. A few cases apparently had recovered normal hearing, though, on examination, evidence of old suppuration were found.

Foreign bodies were found in the ear in 18 cases: haemorrhage of the membrani tympani, probably due to a box on the ear administered a short time previously, in one case; and a rhinolith in one case. Congenital perforation in Sharpnel's membrane was found in eight cases. Very properly a query is placed before the word congenital, for though a perforation was present, and no history of discharge could be obtained, the probability of these cases being past suppurative middle ear trouble must be seriously considered. No mention is made of the use of Seigle's speculum, which might have been able to suck some pus from the tympanum. Of the 8 cases, it is interesting to note that enlarged tonsils and adenoids existed in 6.

88 children were found to be suffering from chronic suppuration, in one or both ears. Not only does this suppurative process cause deterioration of hearing now but will probably later on in life, even if cured at once; and the child is exposed to all the dangerous sequelae of suppurative middle ear catarrh, viz: mastoiditis, sinus thrombosis, and brain abscess. Wilde's remark may well be quoted here, "When a discharge from the ear exists, we can never tell how, when or where it will end or to what it may lead." There were in this group 6 that required the post aural operation. If the present and post-suppurative troubles be considered together, it will be seen that 335 children were affected with, at some time, a suppurative process in the middle ear. There was but one case of internal ear deafness; but, as all cases of severe deafness were sent to other institutions for lip reading, this apparent peculiarity will be explained.

Many children suffered from a running nose and an eczematous condition of the upper lip. No mention is made of the condition of the nose and naso-pharynx in these cases. By many, this excoriation in children is considered to be almost pathognomonic of adenoids, and disappears rapidly after their removal.

Hypertrophy of the inferior turbinated bodies, lobulated and smooth, occurred only in 8 cases. How frequently does one hear of children having hypertrophy of the inferior turbinated body! They cannot have a true hypertrophy before development; and, as the turbinals are not developed until about puberty, the presence of these cases is difficult to understand. No mention is made of the action of cocaine on these nasal tumescences.

There were three cases of pus in the nose without adenoids. No further investigation was made to trace the source of the purulent discharge. Accessory sinus mischief, though very unusual in children, may have been present.

Spurs and deviations of the septum were found to be present, in a marked degree, in only two cases, a very small number, considering that the children are from a class where punches and bumps on the nose are of very frequent occurrence.

Many writers assert that adenoids are always present in the naso-pharynx of children, but, in Mr. Cheatles examination which, it is gratifying to note, not only included inspection but, what is more important, palpation, he found 425 cases in which the naso-pharynx looked and felt perfectly smooth. The adenoids were associated with enlargement of the tonsils in 174 instances, and existed alone in 260 cases, making 434 cases of adenoids in all. Aural mischief was found in 394 cases. If the investigator had found out nothing but the last mentioned fact, his labor would have been of immense service to the general practitioner to whom the child is usually taken for its first ear trouble. Those cases that had no adenoids were noticed to be more healthy than those that were so affected.

The report, which is quite lengthy, is one of the most important that has ever been made on children's ailments. It appears that, in Germany and also Holland, specialists have been appointed to examine the eyes and ears of the school children. There is no question as to the advisability of this. The difficulty has been usually that the stubbornness of the officials in charge of the children will not allow such examinations to be made. What is the condition of the sight and hearing in the pupils of Ontario's Public Schools? No one has the remotest idea. Those, however, engaged in special practice not infrequently see cases of defective vision and deafness that might have been cured, or materially modified.

if seen earlier. The Hon. G. W. Ross, while Minister of Education, was alive to this question. He endeavored to gain some information as to the extent of the existence of myopia in the public schools. Owing, however, to the work being carried on by the inspectors of the schools, no reliable statistics were obtained, though many opinions were given, but they were mere guesses. Would it not be possible for some eight or ten oculists and aurists (not graduate opticians, jewelers and druggists) in Ontario to compile statistics on these points. Some definite plan could easily be arranged and a valuable report be compiled. Moreover, the authorities would be appealed to much more strongly than if only one or two individual investigations were made.

A CASE OF INTRACTABLE NASAL HAEMORRHAGE.

THE London Lancet, cites a very interesting case of persistent nose bleed. The patient was a man, 49 years old, who used alcohol to excess and had symptoms pointing toward granular kidney. The blood was seen to issue from a point on the anterior third of the septum, about one centimeter above the nasal floor. The galvano cautery and plugs, soaked in adrenaline solution, produced little effect. The patient ultimately was anaesthetised, and the whole mucous membrane stripped of the septum with scoop and curette. This was entirely successful in controlling the haemorrhage.

I recently saw a case, in which a lady, past middle life, was subject to periodical attacks of bleeding from the nose. I saw her during one spell of bleeding more severe than usual, but had no trouble controlling the haemorrhage by packing the nostril. She had a very full hard pulse, and a hypertrophied left ventricle. The urine contained a small amount of albumen, and many granular and hyaline casts. The case was evidently one of chronic interstitial nephritis, associated with general arteriosclerosis, in which the nose bleed was simply nature's effort to relieve the over burdened blood vessels.

MEDICAL SOCIETIES.

BRITISH COLUMBIA MEDICAL ASSOCIATION.

THE third annual meeting will be held in Vancouver, B.C., on Friday and Saturday, August 29th and 30th. Members desirous of presenting papers will kindly notify the Secretary, Dr. J. M. Pearson, Vancouver, as soon as possible.

AMERICAN CONGRESS OF TUBERCULOSIS.

AT a meeting of the American Congress of Tuberculosis held in New York June 3rd, 4th and 5th, a reorganization was effected and the following officers elected for the ensuing year: Honorary President, Dr. Henry D. Holton, Brattleboro, Vt.; President, Dr. Daniel Lewis, New York, N.Y.; First Vice President, Dr. J. A. Egan, Illinois; Second Vice President, Dr. Frank Paschal, San Antonio, Texas; Third Vice President, Dr. E. J. Barrack, Toronto, Canada; Fourth Vice President, Dr. J. A. Watson, Concord, N.H.; Fifth Vice President, Dr. Romola, Guatemala; Secretary, Dr. George Brown, Atlanta, Ga.; and Treasurer, Dr. P. H. Bryce, Toronto, Canada.

The suggestion to hold a World's Congress of Tuberculosis in St. Louis in 1904 met with approval and steps are being taken to advertise this fact and secure the aid of medical journals, societies, physicians and scientists in making this movement a grand success. We wish the committee every success in their laudable efforts to lessen the sick and death rate from this disease, which is so distinctly a preventable one.

THE CANADIAN MEDICAL ASSOCIATION

THE Canadian Medical Association will meet this year in Montreal, on September 16th, 17th and 18th. It is expected that an unusually large number of members will be present.

The following arrangements for transportation will be in effect for the Meeting of the Canadian Medical Association and the Canadian Dental Association at Montreal, September 16th to 18th, 1902:

In order to take advantage of these arrangements it will be necessary for members to obtain, from agent at starting point, a Standard Convention Certificate, showing purchase of one way first class ticket to

Montreal between September 12th and 18th (both dates inclusive), which certificate will be honored on or before September 22nd, 1902, in Montreal by ticket agent of the line on which they arrive, for ticket back to their original starting point when certificate is endorsed by Secretary to the effect that delegate has been in attendance at the convention, on following basis :

If 300 or more attend from points south and west of Montreal holding Standard Convention Certificates, they will be given tickets for return, free, to original starting point via same route as used to Montreal.

If less than 300 (and more than 50) delegates are in attendance, holding above mentioned certificates, they will be given tickets for return to the original starting point, via same route as used to Montreal, at one-third of the one way first class fare.

From points west of Fort William, should special concessions *re* time limit be granted, particulars will be announced later.

If 50 or more delegates are in attendance, holding certificates, delegates from Toronto or Kingston travelling to Montreal via Richelieu and Ontario Navigation Co., may return via Grand Trunk or Canadian Pacific on payment of \$5.00 to Toronto or \$3.25 to Kingston. Delegates from Toronto or Kingston travelling to Montreal via Grand Trunk or Canadian Pacific, may return via Richelieu and Ontario Navigation Co. on payment of one-half the fare paid on going journey.

If 10 or more delegates from points east of Montreal are in attendance holding Standard Convention Certificates, delegates east of Montreal will be given tickets, free, for return.

Any further particulars may be obtained from the General Secretary, Dr. Geo. Elliott, 129 John St, Toronto, or from the Chairman of the Transportation Committee, Dr. J. Alex. Hurchison, 70 Mackay St., Montreal.

The meetings will be held in the various rooms of the Medical Faculty of McGill University. The address in Medicine will be given by Dr. Wm. Osler, of Johns Hopkins University, Baltimore; that in Surgery by Dr. John Stewart, of Halifax. On one or two days of the meeting, clinics will be held in the hospitals at such times as will not interfere with the general programme of the meeting, and yet enable those who so desire, to see or to exhibit living cases or specimens which may be of interest to the members.

The Pathological Museum will this year be one of the features of the meeting, and circulars have been issued by the Secretary of the Museum Committee, Dr. M. E. Abbott, announcing the intentions of the committee. Any contributions in the way of specimens will be gratefully received by the Secretary, and every care will be taken of speci-

mens lent and as soon as the meeting is over they will be re-packed and re-shipped to the owners by a responsible person. Specimens for the exhibition should arrive not later than September 6th. The committee is desirous more particularly of obtaining series of specimens illustrating diseased conditions of the liver, gall bladder and pancreas. To all those who may not have received circulars containing details of the Pathological Exhibit, the same may be had on application to Dr. M. E. Abbott, McGill Medical College, Montreal.

The Museum of Commercial Exhibits, which is under the special charge of Dr. J. W. Stirling, 255 Mount St., Montreal, will be found in the most suitable part of the medical buildings. A large and interesting exhibit is expected.

The chairmen of the local committees are as follows:—Executive Committee, Dr. F. J. Shepherd; Reception Committee, Sir Wm. Hings-ton, M.D.; Entertainment Committee, Dr. H. S. Birkett; Programme Committee, Dr. J. G. Adami; Transportation Committee, Dr. J. Alex. Hutchison; Finance Committee, Dr. H. L. Reddy; Pathological Museum Committee, Dr. Andrew Macphail; and Exhibition Committee, Dr. J. W. Stirling.

THE REFRACTING OPTICIAN DOES NOT TREAT DISEASE.

AN illustration, one of many similar ones constantly seen in the oculist's office, recently occurred in Philadelphia. A man consulted a physician asking for spectacles that would give him better vision than those he was wearing. The eyes-examined-free man had changed his lenses three times in a month. The oculist told the patient he had retinal hemorrhages, urged him to consult his general physician, warning him of the danger he ran by his carelessness, by continuing an active life, etc. Seeing that the patient would not take his advice, and even returned to the "ophthalmotrician," the oculist wrote to the general physician (who had not seen the patient for a long time) concerning the man's condition, his arteromatous arteries, hemorrhages, etc. It was all in vain. The quack's glasses were the best; the patient refused to pay the bill of the oculist, would not see the general physician, and his suspicion of medical men grew under the fostering care of the refracting optician. Last week, two months after the oculist's warning, the patient dropped dead from cerebral hemorrhage.—*American Medicine*.

UNIVERSITIES AND COLLEGES.

TRINITY UNIVERSITY JUBILEE.

THIS University has just celebrated its jubilee. During the fifty years that have passed since its foundation, the University has given many a fine scholar to the country. On the occasion of its jubilee the degree of D.C.L., *honoris causa*, was conferred upon the following:— Ven. Thomas Llwyd, Rev. G. C. McKenzie, Very Rev. Stuart Houston, M.A.; Ven. C. L. Worrell, M.A.; Ven. J. J. Bogart, M.A.; Ven. T. W. Allen, M.A.; Ven. S. J. Boddy, M.A.; Hon. R. Harcourt, M.A.; W. Osler, M.D., F.R.C.P.; Rev. J. P. Whitney, M.A.; Rev. J. O. Miller, M.A.; James Bain, Jr, Sir Oliver Mowat, Sir John Boyd, Justice Irving, Judge Senkler, J. P. Whitney, K.C.; E. D. Armour, K.C.

TRINITY MEDICAL COLLEGE.

SOME very important changes have been made in the courses of lectures to be delivered to the third and fourth year students. These years will not be required to attend classes together, as the courses of lectures to the years will be different. In this way, the fourth year students will not be required to take the same lectures they heard in their third year. This arrangement will no doubt enable the lecturers on each subject to give a special interest to his course, as he will not be required to cover so much ground; but rather to confine his attention to some subject that more especially interests him. The work of third and fourth years will thus be covered in a manner that ought to prove fresh and attractive to each of these years. The student will be able to hear nearly twice as many new lectures during his two final years, and without any additional demands on his time. This plan will admit of a much greater degree of specialization of subjects, with credit to the lecturer and advantage to the student. Those interested in medical education will, no doubt, watch the results of this extension of the graded system. Thus, for example, in the subject of surgery, heretofore the students were required, during their third and fourth years, to attend 160 lectures, one-half being repeated lectures, so far as the fourth year men were concerned. According to the new plan, the third and fourth year students will be required to attend about 130 lectures, all of which will

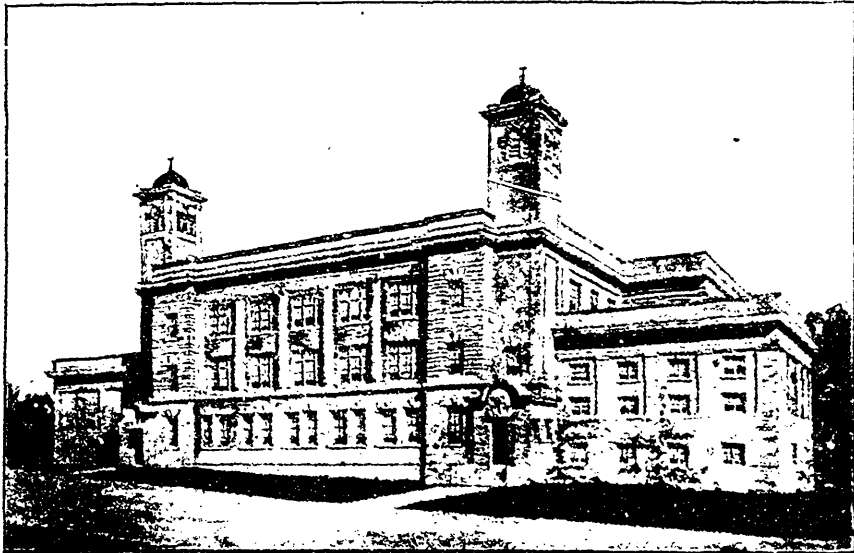
be new. What is true in surgery will also apply to the departments of medicine and gynæcology.

The Medical Faculty of Trinity University was established in 1850. Owing to various circumstances, it ceased to exist in 1856; but was re-established in 1871. The present College buildings, on Spruce street, were erected in the same year. From these, where the Medical Faculty has successfully, for thirty-one years, conducted its work, a long list of practitioners have gone forth. Not a few of these have been able to speak of their College in the words of Horace—

“ Doctrina sed vim promovet insitam,
Rectique cultus pectora roborant.”

UNIVERSITY OF TORONTO.

THE Annual Commencement Exercises were held on 13th June. Sir William R. Meredith, the Chancellor, presided. The attendance was very large. A splendid painting of Hon. Sir William Mulock, former Vice-Chancellor, was unveiled. The painting is one of the very best ever



University of Toronto Medical Building, now in course of erection near University College.

done by Mr. Foster. Mention was made, in connection with the ceremony, of Mr. Mulock's work in bringing about University Confederation.

The degree of LL.D. was conferred upon Chief Justice Armour, President Ira D. Remsen of Johns Hopkins, Dr. W. H. Drummond, J. P. Whit-

ney, J. J. Foy, K.C., Prof. R. R. Wright, Prof. J. Galbraith, Prof. Maurice Hutton, and Dr. R. A. Reeve.

At the Alumni Dinner, Mr. Goldwin Smith, in proposing the toast of "Alma Mater," said, "Alma mater is a very sweet title. It is a title fraught with pleasant recollections that will endure to the end of life, if the University has been indeed an alma and the student has been a worthy son. Old as I am, and dull as the year of old age is, the chimes in the tower of my old College at Oxford often come to me across the sea."

The Council of the University ranked the competitors for the Reeve Scholarship as follows: A. Moir, H. E. Roaf, P. W. Saunders, V. E. Henderson, G. W. Fletcher, A. E. Archer, and E. J. Davey. The Clark prizes in medical psychology were awarded thus: 1. G. W. Fletcher; 2. W. A. R. Mitchell.

MCGILL UNIVERSITY.

MCGILL University has established a six year course in Applied Science and Medicine. This was adopted a few years ago in the Arts and Medicine course also. During the third year in Arts, or Science, the student may take up anatomy, physics and histology; and in the fourth year, anatomy, physiology, pharmacology and Chemistry. He then receives his B.A., or B.Sc., as the case may be. During the fifth and sixth years, he completes his medical studies and receives the degrees of M.D., C.M.

At its June Convocation, McGill University conferred the degrees of M.D. and C.M. and awarded medals and prizes as follows: Ames, C. A.; Anthony, T. B.; Baillie, S. A., B.A.; Blair, H. G. F.; Brennan, F. A.; Byers, J. R.; Campbell, A.; Campbell, J. A. E., B.A.; Cantlie, F. P. L.; Carter, W. LeM., B.A.; Christie, F. J.; Codrington, R. F.; Colby, J. C., B.A.; Coleman, C. E.; Cox, R. B.; Crozier, J. A.; Cullen, W. H.; Curren, L. M.; Currie, W. D., B.A.; Dixon, J. D., B.A.; Dixon, W. E., B.A.; Dorion, W. A.; Eastman, E. B.; Evans, Stuart; Featherston, H. C.; Folkins, H. G.; Forster, J. F. C.; Gardiner, R. J.; Gardner, W. A., B.A.; Green, F. W.; Halliday, J. LeR.; Harris, L. C.; Hart, F. W., B.A.; Harvie, S. K., B.A.; Henry, C. M.; Hellingsworth, J. E.; Hopkins, C. W.; Hyatt, E. A., B.Sc.; Irwin, F.; Johnson, J. A., B.A.; Johnson, G. R., B.A.; Jones, N. C., B.A.; Leney, J. M., B.A.; Lidstone, A. E.; Lomas, A. J.; MacCarthy, F. H.; Macdonald, A. A., B.A.; MacKinnon, G. E. L.; MacLaren, A. H., B.A.; MacNaughton, J. A.; McGibbon, D.; McGibbon, S.; McGrath, R. H.; McKee, W. E.; McKenzie, J. B., B.A.; McNeill, J. F.; Manchester, J. W.; Martin, H. E.; Mason, E. G.; Mason, F. C.; Mason, J. LeD., B.A.; May, L. W.; Menzies, J. E.; Moffatt, Geo.; Morrison, J. F.; Morse, W. R.,

B.A.; Mothersill, G. S.; Palmer, G. H.; Paterson, R. C., B.A.; Peters, O. R.; Pickard, L. N.; Pratt, C. M.; Ritchie, C. F. P., B.A.; Roberts, A. B.; Ship, M. L., B.A.; Smith, T. W.; Stockwell, H. K.; Tolmie, J. A.; Tracy, E. A., B.A.; Van Wart, R. McL., B.A.; Walker, H., jr., B.A.; Williams, R. G.

The prizes in the McGill Medical Faculty have been awarded as follows: Holmes gold medal for the highest aggregate in all subjects forming the medical curriculum—R. McL. Van Wart, B.A., Fredericton, N.B. Final prizeman for the highest aggregate in the fourth year subjects—W. A. Gardner, Huntington, Que. Third year prizeman—F. S. Patch, Montreal. Sutherland gold medal, for chemistry—E. M. McLaughlin, Winona, Minn. Second year prizeman—J. A. Nutter, B.A., Montreal. Senior anatomy prize—J. L. Robinson, St. Mary's, Ont. First year prizeman—F. J. Tees, B.A., Montreal. Junior anatomy prize—J. A. C. Tull, Antigua, B.W.I. The following have passed the final examination with honours: 1, Van Wart, R. McL., B.A.; 2, Gardner, W. A., B.A.; 3, Dixon, J. D., B.A.; 4, Manchester, J. W.; 5, Christie, F. J.; 6, Mason, J. L. W.; 7, Forster, J. F. C.

COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

AT the recent meeting of the Medical Council it was decided, by a vote of 20 to 3, that it was inadvisable for the present that any attempt should be made to change the composition of the Council. A by-law imposing a fee of \$2 on every member of the College of Physicians and Surgeons was passed. It was also agreed to take steps to secure the passage of a bill through the Ontario Legislature to legalize the Dominion registration bill. A vote of thanks was also passed, and sent to Dr. Roddick for his efforts in connection with the passage of the bill through the Federal Parliament. The license to practice was conferred *honoris causa* on Sir Frederick Borden; and *in absentia* upon A. R. Farrell, M.D., J. A. Crosier, B.A., M.D., A. E. Burrows, C. A. Barnes, J. K. Nevin, M.B., J. Gunn, J. Henderson, and E. Latta, who are serving in South Africa.

It was decided that in future the honor instead of the pass matriculation would be required of students prior to registration with the Council. It was also agreed that students shall take their medical course after conclusion of their arts course, instead of taking parts of the two courses concurrently.

The following have passed the Final Examinations of the College of Physicians and Surgeons of Ontario, and are now licensed to practice: H. G. Arnott, T. D. Archibald, J. W. Atkinson, W. J. Brown, H. A.

Bowie, C. W. Brand, J. G. Bogart, J. B. Coleridge, F. J. Colling, John Collison, H. M. Collison, J. D. C'isholm, J. Corcoran, F. P. Coates, J. A. Campbell, T. V. Curtin, J. E. Drury, W. C. Doyle, H. C. De St. Remy, H. E. Day, G. F. Dalton, F. J. Doherty, G. Davis, C. R. Elliott, T. S. Genge, A. J. Grant, W. S. Grimshaw, V. E. Henderson, O. S. Haist, D. E. Hodgson, J. T. Hope, W. T. Hamilton, J. Herod, G. F. Jackson, S. Johnston, G. B. Jamieson, R. J. Kee, T. H. Leggett, R. W. Leader, C. P. Lusk, W. H. Lowry, R. H. Mullin, J. J. Morrow, J. W. Merrill, J. J. Mason, J. W. Moak, E. A. Martin, A. D. McIntyre, D. G. McIlwraith, J. A. McCollum, J. M. McCormack, J. McCulloch, G. R. Pirie, S. E. Porter, R. Parsons, H. R. Parent, W. C. Redmond, J. Rogers, C. G. Robertson, D. M. Robertson, J. F. S. Riches, A. E. Rannay, C. M. Reason, A. B. Rutherford, E. Richardson, P. W. Saunders, J. Smillie, J. A. Smith, G. W. M. Smith, A. Turner, Isabella Wood, C. S. Wainwright, Jean M. Willson, L. N. Whitley, D. G. Whealey, W. D. Young.

ONTARIO MEDICAL COLLEGE FOR WOMEN.

THE above institution has just completed one of its most successful years in its history. All of the students going up from the college for their final examinations at Trinity and Toronto Universities have been successful, while at the College of Physicians and Surgeons, all of the students from the Women's Medical College who tried the examination were successful.

Five out of the eight members of the graduating class have already secured appointments as house physicians in American hospitals:—Dr. Emma Connor, at the Women's Hospital, Philadelphia; Dr. Elizabeth McMaster, and Dr. Isabella Thomson, at the West Philadelphia Hospital for Women; Dr. Isabella Wood, at the New England Hospital for Women and Children, Boston, Mass., and Dr. Lazelle Anderson, at the Children's Hospital, Staten Island, N.Y.

LAVAL UNIVERSITY.

THE following have passed the final examinations in the Faculty of Medicine of Laval University:—Aubin, Aubry, Bourgeois, Beausejour, Charland, G. Cote S. Cote, Collette, Cartier, Collette, Dufeutrelle, Derome, Demers, Dubois, Dauth, Ethier, Fortin, Frigon, Gagnon, Giroux, Lanoue, Langlois, Laffeur, F. Lebel, L. Lebel, L. Leduc, Massicotte, Masson, Moreau, Masse, Martel, O'Brien, Pilon, Pellerin, Page, Rochon, Ricard, Senesac, Scheller, Turcotte, Tasse, Vermet, Verdum.

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No. 11.

EDITORIAL.

THE KING'S ILLNESS.

THE following is a succinct history of the King's illness up to the time of the operation.

On Friday, June 13th, His Majesty was much fatigued after the discharge of many arduous duties. He had a late supper and retired to bed in Windsor Castle.

On the morning of Saturday, June 14th, he complained of abdominal discomfort. He was seen by Sir Francis Laking. In the afternoon he was much better, and went to Aldershot, the weather being bad. During the night he complained of abdominal pain and distension.

Sunday morning, June 15th, at 5 o'clock, Sir Francis Laking arrived and prescribed remedies which relieved the symptoms. Sir Thomas Barlow was sent for and stayed during Sunday. In the afternoon the King was chilly, or had a rigor.

On Monday, June 16th, he returned in a carriage to Windsor. He bore the journey well, and felt better at the end of it.

Tuesday, June 17th, was an uneventful day, everything appearing to be going on well.

On Wednesday, June 18th, Sir Frederick Treves was sent for. His Majesty's temperature was elevated, and there were swelling and tenderness in the right iliac fossæ. In short, there were symptoms of perityphlitis.

During Thursday, June 19th, the King improved.

By Friday, June 20th, the ominous symptoms had disappeared.

On Saturday, June 21st, Sir Frederick Treves again saw the distinguished patient. He found his temperature normal, and the swelling in the iliac region almost gone. It was then thought the King was on the rapid road to recovery.

Sunday, June 22nd was an uneventful day in the case.

On Monday, June 23rd, the King travelled from Windsor to London.

On Tuesday morning, June 24th, the symptoms became very acute. The necessity for an operation was explained to the King. Lord Lister and Sir Thomas Smith now saw His Majesty, along with Treves, Barlow

and Laking, and concurred in the advisability of an operation, which was performed at 12.30. The anæsthetic was administered by Dr. Frederick Hewitt. On making an incision, four and a half inches in depth, a large abscess was found. It was drained by two tubes of large calibre, around which was packed iodoform gauze.

It is not possible to state the exact nature of the King's illness. The terms perityphlitis and appendicitis have been used in connection with the case. The probabilities are that the abscess was due to disease in the appendix, which had become inflamed and suppurated. Such a condition is a serious one, as the risk of general peritoneal infection is considerable. Fortunately, nature succeeds often in walling off the inflamed parts, and, by the time pus has formed, it has become localized. This was most likely so in the King's case.

There are some who think that the operation was unduly postponed, or that the wound could have been better treated in some other manner than the one adopted. The King had at his bedside five members of the medical profession than whom it would be impossible to surpass in eminence. Lord Lister is known to all; and has been professor of surgery in Glasgow University, and King's College, London, respectively. Sir Thomas Smith is surgeon to St. Bartholomew's Hospital. Sir Francis Laking is a physician of eminence, and is in connection with St. George's Hospital. Sir Thomas Barlow is professor of clinical medicine, University College, London. Sir Frederick Treves is surgeon to London Hospital. They would be competent to judge what was best for their patient.

The following opinion, however, coming from John B. Deaver, of Philadelphia, who is an authority in such matters, is noteworthy: "We must remember the tremendous responsibility imposed upon the eminent physicians attending His Majesty. They were called upon to decide a most momentous question, not only the nature of the ailment, but the proper line of treatment as well. The improvement in his condition, together with other weighty reasons, justified them in the course which they have pursued."

Having due consideration for the age of the patient, his exalted position, and the approaching coronation ceremonies, is there anything more reasonable than that his surgeons and physicians should have been most solicitous to avoid an operation; and we could all have wished with them that such had been possible.

The wild rumours of a necessary and severe secondary operation are arrant nonsense. "As a matter of fact, after an abscess has once formed, very little more is heard of the appendix." It is worse than

useless to grope in the bottom of a foul abscess for it at the time of opening the abscess.

It a matter for congratulation that the bulletins gave the patient's condition in plain words, and without the accompaniments of pulse, temperature and respiration records. There is not a member of the profession throughout the Empire who does not rejoice with the King over his recovery, or who is not proud of the part taken in the case by those in attendance, who, without unseemly demonstration, acquitted themselves so well.

The weight of nations on their shoulders lay,
The Empire's highest life they had in charge;
For he, whose sceptre o'er earth's fourth holds sway,
Was ill, and dangers to his life loomed large.

Their hearts were bold as was their counsel wise;
Nor patient's rank, nor world's gaze, them swerved
To right, or left, of science, clear apprise;
And well their King and country thus they served.

PUERPERAL ECLAMPSIA.

IT has long been taught that the most important thing to do in the treatment of puerperal eclampsia, is to empty the uterus with all due haste. Against this teaching Dr. G. Ernest Herman read a paper before the Medical Society of London a short time ago. He took strong ground against forcible delivery, and the performing of certain operations, such as incising the os and vagina to aid the expulsion of the child.

He goes on to show that it is now fifty years since rapid delivery was advocated for the relief of convulsions during labor. The practice has still to be defended. When a real advance is made in treatment, it does not, he contends, take such a long time to become accepted by the profession. On the contrary, the whole question has recently been argued anew, with a long array of statistics to prove the value of rapidly emptying the uterus.

In Dr. Herman's paper there is a collection of cases recorded, numbering 2,142. Of these cases, the fits ceased in 921 when delivery had been completed, whereas they continued in 1,221 for some time after the birth of the child. This clearly proves that the emptying of the uterus in itself is not sufficient to arrest the convulsions.

He then gives another set of cases to show the mortality, with and without forced delivery. The cases were collected from the best sources and in the experience of the most competent obstetricians. The result is that when delivery goes on without operative interference, the death rate to mothers is 20 per cent. In all cases of accelerated delivery, the death

rate was 25 per cent. He does not favor caesarian section, nor Dührsens vaginal sections.

Dr. Herman advocates the palliative and expectant treatment. He employs morphine hyperdermically to control the convulsions. In many cases the temperature runs up rapidly. In these cases he recommends the tepid bath, cooling down the water to about 80°F. The patient is then put to bed, and well wrapped up. By this means the temperature is reduced, and the pulse rendered much less frequent and tense. Free perspiration is also induced.

The treatment to be gathered from Dr. Herman's paper is to the effect that all attempts at forced dilatation, incisions, rapid delivery do more harm than good, and materially increase the death rate. This reduces the treatment to the expectant and palliative. Purgatives, bleeding, morphia, anaesthetics, diaphoretics, the hot bath, will still remain as the therapeutic measures that the attendant must rely upon in the management of these cases.

CHRISTIAN SCIENCE.

CHRISTIAN Science is a jumble of the many metaphysical speculations of the past two thousand years, and more. In the teachings of this cult there is nothing new. It is quite unreasonable to expect that Mrs. Eddy would add anything to what has been thought and said by the sophists, idealists, metaphysicians, pseudo-scientists, pessimists, cynics, theorists, and so on, all down the centuries.

According to Christian Science, there is no need for any knowledge of medicine in order to understand and treat disease. To heal the sick, all that is necessary is to read "Science and Health with Key to the Scriptures." All that one requires to believe in is the real, or "immortal mind," and the unreal, or "mortal mind." A knowledge of broken bones, inflamed organs, ruptured vessels, growing tumors, germ infections, and such like things is worse than useless. It would be trying to know something about the unreal; and would be only a delusion of poor, unreal, mortal mind, which after all does not exist.

To the Christian Scientist, matter has no existence. It is a delusion of mortal mind, an illusion, an error. Matter is unreal and mortal mind is unreal; it is only another name for mortal mind. The human body has no existence. Everything material is only a subjective sensation. This is idealism carried to the extreme. The inference is at once apparent that, if the human body is nothing, then its diseases are nothing. Nothing cannot be diseased or injured. Disease, like the body, is only a belief of mortal mind, which in turn does not exist. This belief of mortal mind leads to the absurdity that an injury may deform one because of a

fear that it would do so ; that a certain drug will destroy life, because belief has given it the power to do so ; that animals become ill, because it is believed they will. Exercise makes one strong, because of the belief that such will be its effects.

Were it not for the beliefs of mortal mind, it would not be necessary to take food. The Christian Scientist has to eat, because he is under the influence of long custom, though he knows that food, air and drink have nothing to do with life. These things are material, unreal, and a delusion ; whereas life is real, immortal, and not a delusion of the mortal mind. Christian Science is a sort of crude pantheism, and that we live in God, the all good, the immortal, the real, and therefore cannot be sick, or suffer injury. Man lives in God and therefore knows all this by revelation ; and also that reason is an infallible guide, as our ideas are God's ideas. Physical sciences have no real existence, as they depend upon our senses and they cannot be trusted as tests of truth. Like mortal mind, they cause blind belief, illusion, error. Things that are seen, felt, touched, tasted are unreal, and mere phantoms. It is only what cannot be recognized by the senses that is real and eternal.

The position of the Christian Scientist is an absurd one in supposing that, because God is all, matter does not exist. This is contrary to revelation and experience. Then again, his position is thoroughly irrational in supposing that sensations are not real. Such extreme idealists, as Fichte, Hume, and Berkeley, never went so far as this. They held that our sensations are very real ; but that it was only these that we recognized ; and, consequently, knew nothing of matter in itself. Remove all sensations from the Christian Scientist, as unrealities, and his so-called reality of immortal mind would become a nonentity. There would be no idea, divine or mortal, in his vacant soul. But further, there could be no such thing as cures of diseases which do not exist. By the teachings of the scientist, disease is an illusion of mortal mind. So must also be its cure. Disease does not exist, except as a belief, and belief is unreal. The scientist is thus forced to the position that his cures are unreal. Finally, Christian Science has done nothing that cannot be done by suggestion, and time. Some conditions are influenced by suggestion. These belong to the neuroses. There is nothing new in this. The curing of disease by the laying on of hands, charms, red flannel, white goat skins, staring at the moon, etc., has run down the centuries.

HUMAN AND BOVINE TUBERCULOSIS.

THE medical profession had almost unanimously concluded that man could contract tuberculosis from cattle, and that cattle could contract the disease from man. This opinion received an unexpected and

rude shock last July when Dr. R. Koch declared that the disease differed, as it appeared in man and animals, so much that it could not be communicated from the former to the latter; and, perhaps also, not from animals to man. This set many to work on a variety of new experiments and investigations.

Dr. Mazyck P. Ravenel, bacteriologist of the State Live Stock Sanitary Board of Pennsylvania, delivered an address before the Pathological Society of Philadelphia, on 24th April, on "The Intercommunicability of Human and Bovine Tuberculosis." The address was published in the May number of the University of Pennsylvania *Medical Bulletin*. In his address he enters very fully into the subject, both historically and experimentally.

Historically he gathered together, in his address, a long list of cases and experiments to show that the disease can be communicated from man to animals. In these cases the clinical and pathological evidences were so conclusive as to leave no doubt, especially when the persons reporting these cases, or making the experiments, included such names as Villemin, Chauveau, Bollinger, Klebs, Kitt, Crookshank, Sydney Martin, Thomassen, Nocard, de Jong, Arloing, and others. There are instances on record, where the animals were undoubtedly infected by their attendants who were tubercular.

Dr. Ravenel gave a report of his own experiments. He gave the most convincing proofs that he had succeeded in a number of experiments to render animals tubercular by means of tubercular matter obtained from the human subject. On this aspect of the question there cannot be the slightest doubt. Every feature of these cases were typical, both clinically and pathologically, of animal tuberculosis. He thought it would be of much importance if he could obtain the tubercular material from a case where the disease arose clearly from infection through the alimentary canal, as such a case would be likely from food or milk.

From one such case, where there was no doubt as to the primary seat of the disease being the alimentary canal, he made a culture from the mesenteric glands. With this he inoculated calves. He found that this culture was intensely pathogenic to them. This culture gave rise to tuberculosis in the animal so much more vigorously and certainly than is usual with human tubercular virus that the inference becomes very strong that the child contracted its disease from a bovine origin, and that this explains why the animals responded so readily to the inoculations made from this case. It appears that the tubercular bacillus undergoes changes, as it may happen to be propagated in the human or the bovine host. If it has been communicated from one human being to another, for a length of time, it loses some of its pathogenic powers over the bovine species.

In the above case, it had only one removal from its bovine origin and the pathogenic power for the latter still existed in an active degree. As cultures are passed on from animal to animal they rise in virulency.

It was then shown that human and bovine tuberculosis possesses the same histological characteristics. This overcomes the difficulty advanced by Virchow, who contended that this was of more importance than the presence of the bacilli. It is thus made clear that tuberculosis in man and the "pearl diseases" in cattle have the same minute anatomy. It has been settled that acute miliary tuberculosis can be induced in cattle by inoculations with both bovine and human virus; and the presence of the miliary tubercle is what Virchow demanded as the test of unity in the disease when found in the two species.

There are differences in the appearance of the human and bovine tubercle bacilli. But these differences disappear as the culturing process is continued; and finally both become identical, especially in certain culture media. It would thus seem that the bacilli cultivated in the human body may differ in appearance from those taken from cattle, and yet have a common ancestry.

Much evidence is then submitted to show that man may be infected through the tonsils and intestinal canal by means of tubercular food and milk, or through wounds.

EDITORIAL NOTES.

The Tallerman Treatment.

Dr. David Walsh, in the *Medical Press and Circular* for May 14th, states that he has been able to cure some obstinate cases of skin diseases, as eczema and psoriasis, by the use of superheated air. Copious sweats are produced and the effect is very powerful on the skin.

Doctors Pray for the King.

A unique and impressive scene was witnessed in St. Paul's Cathedral on the evening of July 2, when some 2,000 doctors assembled beneath the dome of the building and offered prayers for the King's recovery. Many of the doctors wore their academic robes. A litany was sung in procession, the doctors joining in the singing. At the conclusion of the service a message was sent to Queen Alexandra, expressing the fervent hope of his Majesty's speedy recovery.

Tetanus and Vaccination.

Tetanus and Vaccination is the subject of a careful study by Dr. Joseph McFarland, of Philadelphia, in the May Journal of *Medical Re-*

search. He arrives at a number of very important conclusions. Tetanus is not frequent after vaccination, but recently the number has been out of proportion to former experience. These cases have been mostly American, and along the eastern States. They occurred in small numbers after use of various vaccines; but mainly after the use of a particular vaccine. The tetanus bacillus appear to come from the manure and the hay. They occur most frequently in the glycernized lymph. The tetanus bacilli have been found in vaccine lymph, used in 1901. The prevention of this complication must be sought in great care in the preparation of the vaccine virus, in order that it may not become infected from the manure and hay of the premises where it is produced.

Diphtheria Diagnosis and Treatment.

Sir. H. Beevor in a clinical lecture reported in the *Med. Times and Hosp. Gaz.* remarks that diagnosis is not always easy, as every tenth case sent into hospital proved not to be diphtheria. Early diagnosis was very important, as cases treated in the first and seventh days yielded a death rate of 6 per cent., on the third day, 12 per cent., and on the fourth day, 19 per cent. In all suspicious cases take a culture; but not to wait for this, giving antitoxin at once from 2,000 to 7,000 units. The more marked the local lesions, or the more advanced the disease, the more larger should be the dose.

Syphilis and General Paresis.

Dr. A. W. Hurd, in his article in the etiology of general paresis in the *Medical News* for 17th May, remarks that syphilis is the most common factor in the causation of the disease. It may cause it directly, or by devitalising the system. There are usually other factors, as worry excitement, alcoholism, excessive venery. Syphilis can be traced in from 60 to 80 per cent. of all cases. In a few cases, no other causes can be discovered than dissipation, worry, excitement, over work, or injury.

U. S. Government and Tuberculosis.

A short time ago, on the advice of the surgeon-general of the Marine Hospital service, the Treasury Department of the United States issued a written order to prevent the landing of any person suffering with tuberculosis. The New York Academy of Medicine took the matter up and passed a number of resolutions upon the subject, from which the following is quoted: "That, while the academy is convinced of the communicability of tuberculosis and urges all possible precautions against the spread of the disease occasioned by sputum and tuberculous food, the academy is opposed to all measures by which needless hardship is im-

posed upon the consumptive individual, his family and, his physician". When the matter was brought fully under the notice of President Roosevelt he at once issued an order allowing Mr. Eoden, a consumptive, to land. The action of the New York Academy and President Roosevelt may do much to check the spread of this senseless scare, that might do much harm against the wise efforts now afoot to control the disease.

Doctors in the Legislature.

The following doctors were elected, on 29th May, to seats in the Ontario Legislature:—J. O. Reaume, Essex N.; David Jameson, Grey S.; E. Jessop, Lincoln; F. S. Snider, Norfolk, N.; W. A. Willoughby, Northumberland, E.; R. A. Pyne, Toronto, E.; Beattie Nesbitt, Toronto, N.; H. G. Lackner, Waterloo, N.; G. A. Routledge, Middlesex, E.; S. Bridgland, Muskoka; M. James, Nipissing, E.; and M. Currie, Prince Edward. This is a strong and able contingent to look after the interests of the medical profession, to which we are sure they will prove thoroughly loyal.

Prof. Von Leyden Honored.

Ernest Von Leyden celebrated his 70th birthday on 20th April. Few men stand so high in the esteem of the medical profession as Von Leyden. He had been a clinical teacher for forty years. His pupils are found all over the world. The occasion of his birthday was made famous by the publication of two volumes, containing papers from his many pupils and medical admirers and friends. To Von Leyden, whose writings touch upon every subject of internal medicine, the words of Dr. Johnson about Oliver Goldsmith are peculiarly applicable, "Nihil erat quod non tetigit: nihil quod tetigit non ornavit."

Sterilization of Milk.

Anent the sterilization of milk, Dr. Vaughan, of Ann Arbor, made some very important remarks some time ago at the meeting of the American Medical Association. He pointed out that the most dangerous germ in the milk is the colon bacillus. It is sometimes very virulent. After a series of careful experiments he showed that heating the milk to 356° F. does not destroy the toxin of the colon germ, though the germ itself may be destroyed. A very small dose of the colon germ toxin may prove fatal. In this way attempts at sterilization may completely fail. He mentioned that the only safety lay in proper care over the milk supply, so as to avoid contamination with the germ.

Advertisements of Quack Medicines.

The Daily *Star* of Toronto puts up the contention that some patent medicines possess real merit, and may be allowed free sale. This is rarely

true as to the merit ; but should never be so as to the sale. No medicine should be allowed free sale, unless its composition is printed on the wrappers. The public could then judge as to its merits. It is not true that doctors order proprietary medicines. What is true is that they frequently prescribe preparations from well known manufacturers and chemists ; but the formulæ are known in all these cases. This is quite a different thing from the public prescribing for itself preparations, the compositions and actions of which they know nothing. One of the curses of the present day is the making of so much patent medicine, by people who do not know what is in the medicine, nor for what they are taking it, but simply because some greedy vendor says it is good for everything.

Never Give Up Your Patients.

One of the great secrets of success in the practice of medicine is a cheerful manner. If you cannot always say you can cure a case, you can at least say that it can be relieved. Always evince indomitable perseverance in the relief of your patients. Never fold your arms in despair. Fight every inch of ground with whatever disease you may be called upon to deal.

Aortic Diseases.

Dr. Thomas E. Satterthwaite writes in the *Post-Graduate* for June on the above subject. He says that aortic insufficiency may be of two kinds—the relative and organic. The former is rare. The latter is generally caused by congenital defect, endocarditis, arteriosclerosis, strain, alcohol, syphilis, lithaemia, and rupture of a diseased valve. Aortic insufficiency usually comes on insidiously. As some of the blood flows back into the left ventricle, meeting what is there already, there is dilatation and hypertrophy, compensation may fail, and leave the heart dilated.

An Interesting Medical Judgment.

A short time ago Judge Doherty, of Montreal, delivered an important judgment in a medical case. A man met with an accident by which his foot was crushed. He was admitted to the Royal Victoria Hospital, where Drs. Bell and O'Brien removed the toes and part of the foot. Two weeks later the entire foot was removed. The man entered suit against the hospital and the doctors. The judgment was that the doctors had invaded the patient's rights, as he had the control over his own body, and that a surgeon has no right to perform an operation against the will of a patient, unless life is concerned. It was also held that, as the condition of the limb was improved by the second operation, there were no damages. The case was, therefore, dismissed.

The Pathology of Exophthalmic Goitre.

The pathology of this disease has long been much debated. Two main views have been advanced—the nemopathic and the glandular. Charles R. Dana, in the *New York Medical Journal* for June 14, proclaims himself an adherent of the former theory. The primary disturbance is in the cerebral centres controlling the thyroid gland. The vascular derangements of the gland, following upon the nerve derangements, lead to perversion of function. There is evidence of a neurotic personal and family history in almost all the cases. Then note, too, the effect of shock, strain, emotion, etc., in causing the diseases. In proof of the nervous origin of the disease, Dr. Dana reports the findings in a chronic case where there were some marked changes in the nuclei of 12th, 10th, and 9th. The nuclei of the hypoglossal and vagus showed distinct degeneration.

The Sale of Noxious Drugs.

A short time ago, Dr. J. W. Kyger read a paper before the Kansas City Academy of Medicine on "The Decadence of the American Race." He drew attention to the low birth-rate, and to the numerous advertisements of nostrums and means to prevent or cut short pregnancy. The academy passed a strongly worded resolution, which was forwarded to the American Medical Association, and to the Postmaster General, asking that papers be put under censorship with the view of stopping the publication of such advertisements. It is to be profoundly regretted that the greed for gain induces so many newspapers to advertise certain preparations which are clearly intended for immoral and improper purposes, and others of equally clear fraudulent claims of merit. No reputable paper should publish an advertisement of an article of a medicinal character, when the claims are too good to be true, or when the use of it would be attended by criminal results.

Human and Bovine Tuberculosis.

Some time ago the medical profession was startled by Dr. Koch's statement that human and bovine tuberculosis was not identical, and that man did not contract the disease from cattle. Chaveau has experimented on animals with human and bovine tubercular germs. The results were identical. The calf showed the same kind of local lesions, before general tuberculosis occurred. This proves that calves inoculated with human and bovine tuberculous material yielded the same results. Dr. Arnold Hiller, in *Deutsche Med. Woch.*, April 10, states that he does not agree with Koch. He contends that intestinal tuberculosis is fairly

common in both children and adults. This could arise from tuberculous milk or meat. He mentions the case of a man who was tattooed on both hands, milk from the same cow having been used. Both hands developed lupus, Prof. Behring, of Marburg, in his recent work, contends that human and bovine tuberculosis is identical. He has infected animals from man.

Compulsory Vaccination.

The Supreme Court of Kansas, a short time ago, decided in the case of *Osborn v. Russell* that the State Board of Health had no power to insist on compulsory vaccination. The Act provides that "the State Board of Health shall supervise the health interests of the people of the state." The Board of Health adopted the following: "No person until after being successfully vaccinated shall be admitted into public or private schools." The court held that the section in the Act did not go so far as to justify the State Board of Health in adopting the above regulation. The school Act of the State declares, "that the schools shall be free to all children, etc." Under these circumstances, the State Board of Health had no power to refuse admission into a public school to a child, because such child had not been successfully vaccinated. Compulsory vaccination did not come within the meaning of the words "supervise the health interests of the people"

Smoke Nuisance.

From time to time the question of coal smoke from factories and other establishments where there are large furnaces, comes up for a passing criticism. Nothing has been so far done towards the abatement of the smoke nuisance. In London, England, there has existed, for some time, a society for the study of this subject, and for the dissemination of information on it. The cities of Canada are now assuming considerable importance as manufacturing centres, and it would be well if some efforts could be made to abate the smoke nuisance. Clouds of smoke are objectionable to the eye, dirty to the clothing, and injurious to the lungs. It may be that no public body will take up this matter, and that any reforms to be sought will have to come from some voluntary effort as in London. Much can be done to improve the present state of affairs. We hope that the matter may be taken up in some quarter.

The Heart Muscle in Rheumatism.

Rheumatism may affect the muscular tissue of the heart in various ways. In the *Lancet*, for 7th June, Dr. Fisher, of Bristol, points out that there may be dilatation, going on to a fatal termination, without

valvular lesion or pericardial adhesion. In some cases there may be hypertrophy of the heart without either valvular disease or pericardial adhesions. Myocarditis may be present without pericarditis. In some cases there may only be a weakening of the myocardium, as shown by faintness, pain and heart-hurry. He thinks the dilatation and hypertrophy are due to the action of the rheumatic poison.

Tuberculin in Tuberculosis.

Dr. W. C. Wilkinson, Lecturer in Medicine, University of Sydney, in the *British Medical Journal*, June 7, contends that tuberculin is a very valuable remedy in tuberculosis. It should be used early in the disease, and before there is mixed infection. After this has occurred it is of doubtful value, may indeed do harm. In every one of 70 cases treated in this way, there was improvement. He contends that it is only now that the true value of tuberculin is being determined. If there be not mixed infection, and the tuberculin is properly used, the bacilli gradually die out, and the symptoms of the disease disappear.

Lactic Acid in the Treatment of Baldness.

Balzer (*Medical Times*) recommends friction of the bald part daily with a 30 per cent. solution of lactic acid until the skin becomes inflamed. The treatment is discontinued until the local irritation subsides when it is begun again. The results are said to be good, in some cases a new growth of hair being obtained in three or four weeks. The germicidal action of the remedy and the local stimulation produced afford a satisfactory explanation of the beneficial effects.

OBITUARY.

WYATT JOHNSTON, M.D., C.M.

We regret to record the death of Dr. Wyatt Johnston, of Montreal. He was educated at McGill. For a number of years he was connected with his alma mater, as one of her esteemed professors in the Faculty of Medicine. He was an original worker in the field of pathology. A few weeks ago he was elected to the Chair of Hygiene. He took a deep interest in matters pertaining to public health, and was an active member of the National Public Health Association. He was well known also for his work in jurisprudence. Thrombosis of one of the femoral veins occurred and sudden death from an embolism resulted.

PERSONAL.

Dr. Bowlby has removed to Simcoe.

Dr. Wade has left Renfrew for Great Falls, Montana.

Dr. J. Leslie Foley has removed to 66 Mackay street, Montreal.

Dr. Allison Smith has removed from Prince Albert to Medicine Hat.

Dr. Peter Wood, of Hamilton, has recovered from his recent illness.

Dr. B. Field, formerly of Toronto, has located at Thornloe, Temiscamingue.

Dr. D. H. Arnott, of London, was married to Miss A. L. Fram on 10th June.

Dr. Uren, of Toronto, has been appointed to the staff of St. Michael's Hospital.

A movement is on foot to establish a contagious diseases hospital at Regina, N.W.T.

The Toronto Western Hospital has acknowledged donations in cash of nearly \$7,000.

Dr. G. C. Munro, of Wheatley, Ont., is in London convalescing from a severe illness.

Dr. Arthman A. Bruere has resigned the chair of physiology in Bishop's College.

Dr. Ferdinand Fleury has been reappointed Medical Superintendent of Notre Dame Hospital.

Dr. R. J. Gunn, who had practised in Whitby since 1849, died a short time ago in his 89th year.

Dr. W. G. Turner has been appointed Superintendent of the Montreal General Hospital.

The Sisters of Providence propose erecting a modern hospital at Vancouver, B.C., to cost about \$75,000.

The Carlton County Hospital, Woodstock, N.B., has received donations amounting to \$2,734.

Drs. Wright, Graham and Waters are the new house staff for the Sick Children's Hospital, Toronto.

Dr. L. A. Montpetit, 110 St. Lawrence street, Montreal, slipped and broke his leg. He was taken to the General Hospital in a cab.

Dr. Arthur, of Sudbury, in shutting the door of the safe in the office, the end of his left thumb was caught and completely cut off.

Dr. S. J. Mellow, of Port Perry, has been appointed an Associate Coroner for the County of Ontario.

Dr. Ruttan has been appointed professor of chemistry in McGill University, to succeed Prof. Gerwood, who lately resigned.

Dr. Boulet, Secretary of the College of Physicians and Surgeons of Quebec, died at his home, Quebec, 6th June.

Dr. and Mrs. Shaw Webster, of Toronto, have returned from New York. The doctor has been visiting the principal hospitals in several of the American cities.

Dr. O. W. Colbeck, late of the Toronto Western Hospital house staff, has been appointed house physician to the Mount Airy Sanitarium for Children, Baltimore.

Dr. E. R. Secord, of Brantford, who went to Italy some time since for the benefit of his health, has returned home. He has had conferred upon him the Fellowship of the Edinburgh Obstetrical Society.

The Toronto General Hospital has appointed the following as its assistant medical staff: Drs. R. A. Mattin, J. D. Chisholm, T. R. McCollum, A. B. Rutherford, P. W. Saunders, C. R. Elliott, S. Johnston, R. N. Kyles, W. H. Lehry, and R. Parsons. As alternates: D. Lancaster, G. Davies, S. J. Farrell, and G. B. Jamieson.

BOOK REVIEWS.

PROGRESSIVE MEDICINE.

A quarterly digest of advances, discoveries, and improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D., Professor of Therapeutics and *Materia Medica* in the Jefferson Medical College of Philadelphia, etc., assisted by H. R. M. Landis, M.D., Physician to the Out-patients Department of the Jefferson Medical College Hospital. Vol. II June 1902. Surgery of the abdomen, including hernia: gynaecology, diseases of the blood and ductless glands, the haemorrhagic diseases, metabolic diseases, and ophthalmology. Lea Brothers & Co., Philadelphia and New York, 1902.

THE present volume, like all its predecessors in the series, is a handsome one. It is gotten up in the very best style of the book-making art. The paper, type, illustrations, and binding are all that could be desired.

William B. Coley, Clinical Lecturer on Surgery in the College of Physicians and Surgeons of New York, is responsible for 160 pages of the volume. He reviews the work done on penetrating shot-wounds of the abdomen, tuberculosis of the peritoneum, hernia, appendicitis, the abdomen in general, the stomach, duodenum, omentum, liver, pancreas, spleen, kidney, intestines, and rectum. It is impossible to review all the above. On the subject of appendicitis, a few important statements may be taken from the volume. It holds that chronic cases are really not

cured by medical means, that in acute cases operation should be performed within the first 24 hours, and that in abscess cases drainage is the safer plan to follow. On the liver and bile two important facts may be noted: that healthy bile in large quantities is not irritating to the peritoneum; and that the establishment of collateral circulation is of great benefit in ascites from cirrhosis of the liver.

Dr. John G. Clark, of the University of Pennsylvania, digests the progress of gynæcology in 70 pages. In purulent pelvic cases, the vaginal route is highly recommended. On cancer of the uterus radical surgical treatment is the only treatment in the early stages. In the cases not suited for operation, it is recommended to remove as much diseased tissue as possible, and then freeze the parts with ethyl chloride. This may be repeated at first every three days, and later less often. The freezing spray is harmless, and controls the cancerous growth. It may be necessary to cauterize and pack, after curetting, and prior to the freezing. In distention of the bowels after abdominal operations, enemata of alum, one drachm to the quart, is spoken highly of. It usually acts in five to fifteen minutes. Stypticin is recommended in the following forms of uterine hæmorrhage: in virgins, in subinvolution of the uterus, in post-purture endometritis, and at the climacterium when no lesion can be found.

Dr. Alfred Stengel takes the section on the blood and gland diseases. On pernicious anæmia the statement is made that most now believe in a toxic origin for the disease, though its nature is not fully made out. On Leukæmia it is stated that its etiology is still an unsolved problem. On scurvy it is said that the modern tendency is to regard it as a bacterial disease. On purpura the statement is made that it is now recognised as secondary to various diseases, and is an expression of some form of infection. The nature of exophthalmic goitre is still in doubt, but the evidence is in favor of its thyroid origin. On acromegaly it is mentioned that the evidence is not now so strong that it is due to disease of the pituitary gland as it was a few years ago. This gland is found to be normal in some cases of acromegaly.

Diseases of the eye are ably and fully handled by Dr. Edward Jackson, of Philadelphia. For ophthalmia neonatorum a 5 per cent. solution of protargol is highly recommended. It is also stated that the disease is not always due to the gonococcus.

The whole volume is well up to date; and, on the topics covered by it, is an excellent guide and work of reference.

HUMAN EMBRYOLOGY AND MORPHOLOGY.

By Arthur Keith, M.D. (Aberd'n.), F.R.C.S. (Eng.) Lecturer on Anatomy London Hospital Medical College. Formerly Hunterian Professor, Royal College of Surgeons, England, and examiner in Anatomy, University of Aberdeen. Illustrated. pp. 324. London. Edward Arnold. 1902.

THE suggestion to teach morphology and embryology from the clinical standpoint would seem absurd to the man who is not in sympathy with modern methods of teaching scientific medicine. When we find a man, in the compilation of a book with the above title, stating that "clinical utility was the criterion employed" in determining the scope of the work, we pause to ask ourselves the question if it is a fact that in modern medicine it is essential for the Physician and Surgeon to have had through training in embryology and comparative anatomy if he is to be a successful teacher and an intelligent practitioner. We answer unhesitatingly in the affirmative.

The work is very carefully compiled and appears to contain many points of very useful information which are wanting in many of the recent text books such, for example, as the description of the development of the premaxillary bones in man. As long ago as 1879 Albrecht called attention to the fact that each premaxilla in man usually developed from two centres and thus is explained the fact that clinically we find, in cleft palate, there is a variation in the position of the cleft anteriorly; it may pass between the lateral and central incisors or it may pass between the lateral incisor and canine. Keith gives due prominence to this observation and points out its clinical bearing. The author favors the view regarding the connection of the developing Thyroid with the so-called thyro-glossal duct the lingual opening of which persists as the foramen caecum at the base of the tongue. He refers to the occasional persistence of portions of this duct forming cysts at the base of the tongue. Attention is also called to a fact, which the reviewer has noted clinically, that one might mistake a cystic bursa developing above the hyoid for a cystic thyro-glossal duct. The development of the mammary gland and a clear description of the lymphatic connections which it establishes are of value. The facts here, concisely summarised, are such as should be recognized by every surgeon who operates for mammary cancer. The author states that "Ectopia vesicae is still unexplained"; he advances the theory, however, that it is due to the arrest in the development of the body stalk towards the ventral aspect of the body thus preventing of the symphysis pubis and in addition the development of the uro-genital cleft above the genital tubercle instead of below it. The theory also is stated as to the possibility of this abnormal development being due to a dropsical condition

of the Allantois with subsequent rupture. As to the correctness of either of these theories, however, we have no proof.

The book is well illustrated by diagrams drawn by the author of similar type throughout, and this part of his work has been done most satisfactorily. A few diagrams are reproduced from other authors, but they are modified so as to conform to the general plan of illustration. All the illustrations are therefore of the same type; they are printed in black and white with clear outlines and suitable shading so as to present a series of figures which form an excellent guide to the meaning of the text.

We congratulate the author very heartily upon the production of a book which, as far as we are aware, has its counterpart nowhere, and we feel assured that it will fill a want felt by the teacher and the practitioner who are anxious to do their work in scientific medicine intelligently.

MISCELLANEOUS.

Mr. F. M. Tuckett has gone to England in the interest of Ferrol, or Ferroleum, and has opened an office at 60 Bartholomew Close, S. C. London, England.

IMPORTANT LEGAL DECISION.

Fairchild Brothers and Foster recently secured an important decision from the Court of Special Sessions in New York. A certain company in the above city had been selling another preparation of essence of pepsin instead of Fairchild & Foster's, ordered on the prescription. The druggist was fined \$50

GASTRALGIA—ITS TREATMENT.

Gastralgia is, for therapeutical purposes, divided into two groups by Professor Saundby (*N. Y. Medical Journal*). The first group comprises those cases in which pain occurs independently of eating, and the second group, those cases in which the pain occurs after food is taken. The treatment of the first class consists of change of scene, a sea voyage or mountain air and abundant food at regular intervals. The palliative treatment consists of iron, quinine, arsenic, nux vomica and the mineral acids.

For the second class, the treatment is, rest in bed, milk and lime water in sufficient quantities—say an ounce every hour. A nutrient enema of one egg, beaten up in four ounces of milk, to be given every four hours. The amount of milk should be increased with improvement,

and if milk fails, from two to four ounces of lightly cooked minced meat may be substituted.

For the relief of the pain in both cases, Saundby gives morphia or heroin, but in a recent clinical report Professor Boone, College of Physicians & Surgeons, St. Louis, states that he finds one Antikamnia and Heroin Tablet (5 grains Antikamnia ; 1/12th gr. Heroin Hydrochloride) given as required, not only relieves the pain, but prevents its recurrence, much more satisfactorily than either heroin or morphine alone. In other respects he concurs with Professor Saundby in his method of treatment.

REMOVAL OF GUN-POWDER STAINS.

Dr. E. G. Corbett, of Hampton, Fla., in *The Medical World* of Philadelphia, Pa., Feb., 1902, remarks that Christmas day a boy of twelve filled a vaselin bottle with powder and exploded the same. I arrived on the scene about three hours after the accident and found the cornea and sclerotic of both eyes and the face literally blown full of powder. I removed a dozen or more flakes of powder from each cornea with a foreign spud ; also removed the powder from the sclerotic. Did the operation under a four per cent. solution of cocain. After the operation I used a fifteen per cent. solution of Hydrozone in the eyes. After removing the particles of glass from the face, I kept a cloth over it saturated with a fifty per cent. solution of Hydrozone. At the end of two weeks I used a saturated solution of boric acid in the eyes and painted the face twice daily with equal parts of Hydrozone and glycerin. The eyes are well and powder stains have disappeared from the face.

BOVININE IN SURGICAL PRACTICE.

T. J. Biggs, M.D., Sound View Hospital, Hartford, Conn., reports the following interesting case: Mrs. T., age 47, carcinoma of uterus. Entered hospital October 10, 1901, in a greatly run down condition. She was put on an absolute bovine diet until October 14th, when at one o'clock she was given a high rectal injection of bovine and salt solution, three ounces of each, and at two o'clock, under ether anaesthesia, I performed an abdominal hysterectomy. Just before the uterus was detached from the vaginal wall the patient showed considerable shock, and consequently the nurse was ordered to give her another high rectal injection of bovine and salt solution, two ounces each. She responded to this beautifully. The operation was completed by the closure of the abdominal wound, the pelvis being drained through the vagina. Patient was put to bed with the pulse weak and 112. She was given another

high rectal injection of bovine and salt solution, three ounces of each. In twenty-five minutes she was conscious, pulse greatly improved, being 100, and full in character. *No nausea, thirst or vomiting.* The second day the vaginal drain was removed, the wound and the vagina treated by injections of bovine, pure, employed t. i. d. Previous to every injection of bovine into the vagina, the cavity was washed out with borax solution. These injections were continued three times a day up to October 16th, when twice in twenty-four hours was deemed sufficient. She was now allowed a light general diet together with bovine. October 24th the stitches were removed and the abdominal wound found to be healed. From this time on her recovery was uninterrupted, and she was discharged cured, November 15th.

PEPTO-MANGAN (GUDE) IN ANAEMIA.

Dr. Hermann Metall, Med. Chirur. Central-Blatt, of Vienna, January, writes on the various anaemia conditions, such as are encountered in cancer, tuberculosis, chlorosis, and exhaustive diseases. According to his researches, iron cannot be replaced by alimentation. Iron medication is materially aided by the addition of manganese. The combination of iron and manganese, discovered by Gude, is one of the very best. It can be taken by all classes of patients; and it does not irritate the most delicate stomach.

He had prescribed Gude's Pepto-Mangan in a number of anæmic conditions, with very happy results. In one case of chlorosis, the red corpuscles increased from 2,480,000 to 5,000,000 in one month, and the hæmoglobin from 20 per cent. to 50 per cent. In another case of chlorosis, the corpuscles increased from 3,750,000 to 4,200,000; and the hæmoglobin 35 per cent. to 70 per cent. in six weeks. In another case, the corpuscles increased from 2,400,000 to 5,250,500; and the hæmoglobin from 20 to 50 per cent. in five weeks. In all these cases, the medical treatment was tablespoonful doses of Pepto-Mangan (Gude) three times a day. In all, 23 cases of anaemia were treated by Pepto-Mangan (Gude). Twelve showed a normal hæmoglobin per cent. in 14 days; five after 3 weeks; and five after 1 month. In one case, with bad heredity, there was only improvement after 2 months.

In cases of acute anaemia, following hæmorrhage, he found it to be a valuable remedy. Good results are obtained in such cases in a week. In cases of severe hæmorrhage, in connection with miscarriage, it yielded excellent results. It would thus appear that Pepto-Mangan (Gude) is a valuable blood-builder.