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OCULAR THERAPEUTICS.*

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The affections of the eye dealt with in the present paper are under constant observation by almost every general practitioner, and the remedies mentioned should be in every surgery.

The essential objects of all therapeutics are three: 1st, Removal of the cause; 2nd, Checking the morbid action; 3rd, Restoration of the normal condition. It is true in many cases that when we succeed in removing the cause, nature supplies the other two requirements; but there are also cases in which nature's action may be stimulated and assisted by the judicious application of scientific therapeutics.

The conjunctival mucous membrane is subject to the same kinds of inflammation as other mucous membranes, in addition to which it suffers from the granular and phlyctenular forms which are peculiar to it. The treatment, therefore, of ophthalmia is essentially similar to the treatment of inflammations of other mucous surfaces.

It is not sufficiently widely recognized that the surface of the eye is lubricated by the mucous secretion of the acinous glands of the conjunctiva, and not by the tears. This is shown by the fact that excision of the lachrymal

gland does not affect the surface of the eyes, while in xerosis—in which there occurs atrophy of the conjunctival glands—the surface of the eye is dry and lustreless. The knowledge of this point is sufficient to stimulate us to renewed exertions in chronic and intractable affections of the conjunctiva. Another point which should never be lost sight of is that the transparency of the cornea is greatly dependent upon the condition of the surfaces which come into contact with it, and roughness of the palpebral conjunctiva may seriously affect the vision.

No distinct line of demarcation can be drawn between any of the forms of conjunctival inflammation, as they may merge into each other or be of a mixed character from the beginning.

A cardinal rule in the early and acute stage of mucous inflammations, is to avoid astringents or stimulating applications. The requirements of this stage are best met by placing the organ at complete physiological rest, cleanliness, the application of cold or warmth, and attention to the general condition. Rest is best secured by keeping the patient in a darkened room. A single instillation of atropine will successfully prevent a refractory patient from reading for at least a week, but the continued instillation of atropine is contra-indicated where the conjunctiva alone is affected. Bandages should also be avoided in conjunctival affections. Cleanliness demands constant attention when the eye is discharging freely. A saturated solution of boracic acid is probably the most soothing wash possessing antiseptic properties; it should be

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used warm, run freely into the eye, then the lids everted and carefully bathed. The frequency of this operation depends upon the severity of the inflammation. The lids may be prevented from adhering together by clipping the lashes and placing a little soft ointment along the edges. The contagious nature of the discharge in all forms of ophthalmia should never be lost sight of. Hot or cold applications are best made by means of cloths wrung out of hot or cold water, and frequently renewed. Poultices are a constant menace to the cornea. As in other acute inflammations, the condition of the bowels and circulation require attention.

As the acute stage passes into the sub-acute, the discharge increases and the acute hyperæmia gives place to a more chronic congestion with a somewhat relaxed condition of the mucous membrane. This, then, is the period in which the use of astringents should be begun, but before doing so the cornea should be subjected to a searching examination, as *the existence of any corneal abrasion or ulceration contra-indicates astringents*. The reason for this is evident when we remember that if the corneal epithelium be injured or removed, mineral astringents possess the power of dissolving the corneal cement substance. The most servicable astringents are, sulphate of zinc j—iij gr.; alum j—jv gr.; nitrate of silver ss—ij gr.; sulphate of copper ss—ij gr. to an ounce of water. Beginning with the weaker solutions, they are rather soothing, while the stronger are stimulating to the chronic forms. It is hardly necessary to remind you that acetate of lead forms an opaque white crust over a corneal ulcer, and may thereby affect the vision, and that nitrate of silver occasionally discolors the conjunctiva.

Passing now to the consideration of a structure peculiar to the eye—the cornea—let us briefly review its structure. The external surface of the cornea is covered with a layer of epithelial cells directly continued from the conjunctiva; below the epithelium is found an elastic lamina, then comes the corneal tissue proper, while the posterior surface is covered with Decemet's membrane. The nerve supply consists of fine filaments in the anterior portions of the cornea, and the excruciating pain of a progressive corneal ulcer is due to the involvement of these filaments. Removal of the cor-

neal epithelium does not usually leave an opacity, and a deep ulcer may leave a surprisingly slight one. but any injury to Decemet's membrane causes a permanent opacity corresponding to the size of the injury. Let me here repeat a rule which has been already laid down, viz., when the corneal surface is affected, astringents are contra-indicated; this refers particularly to the mineral astringents.

The most common affection of the cornea is ulceration, and the symptoms calling for amelioration are, pain, photophobia, heat and lachrymation, while the danger to be guarded against is perforation. The several forms of ulcer vary from slight abrasions of the corneal epithelium to the serpiginous form, which may result in destruction of the eye. If the photophobia be severe, it renders an examination of the cornea almost impossible, but this may be facilitated by instilling a few drops of a cocaine solution, which almost instantaneously relieves the photophobic pain. The treatment of corneal ulcers during the progressive stage aims at keeping the eye at rest and preventing a perforation. The friction of the lids over the ulcerated surface is a constant source of irritation and pain. This is best relieved by a compress and bandage, which is also of material service in supporting the thinned cornea against pressure from within, which might cause it to bulge or perforate. Upon general surgical principles the compress and bandage serves an important end as an anti-phlogistic agent, by mechanically diminishing the calibre of the vessels and thus preventing the secondary phenomena of transudation, etc. Atropine is most efficient in soothing the pain, and it may be used frequently unless there is a tendency to perforate, when eserine should be used by preference, on account of its power of diminishing intra-ocular tension. Bathing the eye in a warm saturated solution of boracic acid previous to the instillation of the drops also aids in relieving the pain. As the ulcer ceases to progress, vessels extend to it from the conjunctiva, the edges change from being abrupt or undermined to a more rounded form, and soon the floor of the ulcer becomes almost level with the surface of the cornea. This is the time for stimulating applications, the best of which are an ointment of the yellow oxide of mercury gr. ij—jv to ʒ, or calomel dusted on the surface of

the cornea from a camel's hair brush. The ser-piginous ulcer calls for active treatment, and the most beneficial results are got by a delicate application of the galvano cautery. Probably no structure in the body suffers more quickly from malnutrition of the whole than the cornea, hence the necessity of a careful examination of the general condition, and there are few forms of corneal ulcer which are not benefitted by the judicious administration of stimulants combined with liberal diet and a suitable tonic.

Practitioners in manufacturing towns are constantly called upon to remove foreign bodies imbedded in the cornea. A few drops of a 5 gr. to the $\bar{3}$ solution of cocaine renders this little operation painless. It is a mistake, if the foreign body be deeply imbedded, without perforating, to insist upon its immediate removal; if after a few attempts the body still remains firmly fixed, the eye should be bandaged up for twenty-four hours, after which the removal is usually much simplified. The reason for allowing the foreign body to remain is that the slight suppuration which takes place around it in twenty-four hours does less harm to the cornea than the deep scraping necessary for immediate removal.

The references here made to cocaine are brief, as it is now in such universal use that all are familiar with it. A 5 gr. to the $\bar{3}$ solution is sufficiently strong for minor eye operations, the addition of boracic acid prevents the development of fungi in the solution. It rarely renders the iris completely anaesthetic, although it dilates the pupil. Its transient effect renders it valuable in dilating the pupil for ophthalmoscopic examination.

Eserine is a drug of comparatively recent introduction, and its principal virtue lies in the fact that it diminishes intra-ocular tension; besides this it causes spasm of the ciliary muscle and contraction of the pupil. The instillation of the ordinary 1j to $\bar{3}$ solution causes more or less pain. It acts like a charm in glaucoma by reducing the tension and relieving pain.

Atropine is almost inseparably associated with certain ocular diseases. Before mentioning its various remedial effects, let us glance at those cases in which it acts injuriously. It irritates an inflamed conjunctiva; it may induce an attack of acute glaucoma in an eye predisposed

to the disease. Toxic results from the instillation of atropine are not rare, especially among infants, and a death from this cause has been reported. The effects of atropine upon the vision should be carefully explained to the patient and his friends before being used, for should it be instilled into a diseased eye, which may go blind before the effects have passed off—as in a case of acute papillitis—the surgeon will surely get the credit of blinding his patient. Between half an hour and an hour after the application of atropine, the pupil begins to dilate and the power of accommodation becomes lessened. Repetition of the application causes full dilatation and complete paralysis of the ciliary muscle lasting several days. If the eye be myopic little or no change of vision is noticed after the instillation, but if the eye be hypermetropic or astigmatic the vision suffers according to the degree of the defect, until the effect of the mydriatic passes off. Thus it is evident that the iris, ciliary muscle, and structures directly continuous with these, are influenced by atropine in a manner directly the reverse of that caused by eserine. In iritis the iris contracts owing to its hyperaemic condition, and tends to form adhesions in this unfavorable position; here the instillation of atropine dilates the pupil, removing the iris from direct contact with the lens, and by preventing its reflex action keeps it at rest. Atropine almost deserves the name of a specific in iritis. The paralysis of the ciliary muscle is an important factor in affections of the lining membranes and contents of the eye. Each contraction of the ciliary muscle causes motion of the choroïd, and with it the superimposed retina and hyaloid membrane as well as—but to a lesser extent—the vitreous humor; so the paralysis of accommodation affords these structures mechanical rest. Hence atropine is indicated in all inflammatory affections of the structures influenced by the ciliary muscle, and especially in choroiditis. To overcome the effects of the dilated pupil, which allows a flood of light to enter the inflamed eye, the patient should be kept in a darkened room, or should wear colored glasses, thus ensuring more or less physiological rest. The color of the protecting glasses should as nearly as possible neutralize that predominating in the light. Artificial colored light contains yellow, orange and red rays, which are

absorbed by blue glasses; daylight being white, smoke glasses are used to weaken its intensity. Colored glasses should be worn in deep seated inflammations only, they cannot properly replace the bandage where there is photophobia due to inflammation of the cornea.

Complete rest for one eye is only obtained when both are quiescent, so when one eye alone is affected, both should be kept at rest to facilitate the healing process.

TUBERCLE, FROM A SURGICAL STANDPOINT.

BY GEO. A. PETERS, M.B.

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In dealing with this question it is necessary to come to an understanding as to what constitutes tuberculosis. Up to recent years the two diatheses—tubercular and scrofulous—were universally recognized. It was admitted that the scrofulous were more liable than others to become tuberculous, but this admission was not intended to imply any specific connection between the two diatheses. The fact was accounted for by the diminished physiological resistance which was the acknowledged characteristic of scrofula or struma. But the absolute identity of tuberculosis and scrofula has been very conclusively demonstrated within a recent period by the invaluable researches of Koch, Baumgarten, Volkmann, and others. Arthur E. J. Barker, of University College, London, patronizingly speaks of those who hold a contrary view as "surgeons at home and abroad who do not perhaps enjoy the privileges of closely following the rapid advances of pathological investigation."

The acceptance of these advanced views, and the wonderful results of treatment that have been attained by Barker, Volkmann and others, constitute a veritable revolution in the surgery of what have hitherto been designated "scrofulous lesions."

In looking at tubercle from a surgical standpoint, it is accordingly necessary to consider, 1st, What effect general tuberculosis has upon operations involving non-tuberculous parts, and upon the healing of accidental wounds, fractures, etc.; and, 2nd, What are the best methods of treating local tubercloses.

It is frequently a matter of astonishment, as well as gratification, to the surgeon to note how kindly wounds heal by first intention, even in those whose lungs are full of tuberculous cavities. Hence, pulmonary tuberculosis is not so formidable an obstacle as might be anticipated in the treatment of wounds accidentally sustained. Of course if the wounds are of such a nature that prolonged confinement in a recumbent posture is necessary, the effect upon the lungs must be baneful; but as far as the injury itself is concerned, if absolute asepsis can be maintained, we may hope for healing by first intention in all wounds capable of so healing, and for good healthy granulations in wounds not so favorable in their nature. While it must be admitted that if a long bone be the seat of a local tuberculosis it is thereby rendered specially liable to fracture, we have ample evidence that ordinary fractures in a tuberculous subject heal almost or quite as well as in those not so affected. In fact, in none of the works on surgery that I have had the opportunity of consulting; is tuberculosis set down as a cause of ununited fracture, or even of delayed union.

Still it must not be forgotten that Baumgarten has proved experimentally by operations on the eyes of rabbits, that if the tubercle bacillus once lodges in a recent wound or in granulation tissue it grows with largely increased luxuriance. While the knowledge of this fact cannot influence us in the treatment of wounds and fractures accidentally sustained, it must have due weight with us in deciding upon the advisability of any operative procedure. Ponfick has shown that a single caseous focus may become the forerunner of acute miliary tuberculosis, by rupturing into the thoracic duct. Weigert has demonstrated what is probably the commonest channel of infection, viz., through the veins, and Koch found the small arteries of a bronchial gland invaded to the intima by swarms of bacilli. Since then an individual infected to any degree with tuberculosis is liable to have swarms of bacilli set free in the blood at any time, we must not, without due consideration, create a feeding ground for them. Truly it would be nothing short of cowardice to refuse to attack a cancerous breast, or a sarcomatous jaw, but I think a judicious surgeon would hesitate to remove an innocuous fatty tumor, or to do an osteotomy

for bow-leg, or any other serious operation of complacency upon a patient advanced in tuberculosis, more particularly if he had any reason to suspect involvement of the kidneys.

We now come to consider what are the best methods of treating local or surgical tuberculosis. As tuberculosis is a constitutional disease, and its local manifestations merely incidental, we naturally and rationally seek to combat the local by attacking the constitutional condition. But obviously it is no part of the province of this paper to deal with the multifarious question of the constitutional treatment of tuberculosis. Suffice it to say that no plan of treatment has hitherto been followed that offers any reasonable hope that we may yet be able to cure the local manifestation without resorting to local measures. But it may be accepted as an axiom that any line of treatment that will be beneficial to the general disease will also be salutary to its local manifestation.

There is, however, one method of treating the general condition that I shall briefly allude to, because—though I do not know that its originator claims this for it—I can conceive that it may be useful in the topic lesions. I refer to the possibility of destroying the bacillus by the direct application of heat, as first advocated by Weigert, I believe within the last few months. He bases his treatment upon the fact that the tubercle bacilli are peculiarly susceptible to influences of temperature; their vitality is lowered by a temperature of 101.3° F., and their development ceases at a temperature of 107.6° F. In Weigert's apparatus the patient breathes air which is so hot that the expired air has a temperature of 112° F. Further than to state that the results of this method of treatment have been in some cases extraordinary, I shall not pursue the subject. Now it is but a short step from this to the application of hot water—medicated or sterilized—to the local lesions. Ordinary native albumen coagulates at about 158° F., and since the bacilli cannot withstand 108° of heat, it would seem a simple matter to treat a circumscribed lesion. We must not lose sight of the fact, however, that most of the bacilli, and in fact all the active ones which are doing the damage to the system, are buried at varying depths in the tissues, and these tissues are, to say the least, not good conductors of heat.

But hot water will, I apprehend, find its greatest usefulness in destroying the bacilli which may remain upon the surfaces of the wound after the surgeon has removed all that he can by cutting operations. Barker uses water at a temperature of 105° - 110° F. instead of the ordinary antiseptics, and his good results may be largely due to the destructive action of the heat upon the bacilli. It would be interesting and instructive to know what degree of temperature of the tissues could be attained at varying depths from the surface by the local application of heat, but so far I have not been able to find any data on this point.

It is, I need scarcely say, impossible in this short paper to even mention all the methods that have been adopted in the treatment of surgical tuberculosis. We shall briefly notice two or three local measures which have been successful, or which, though still on probation, give promise of success, and then pass on to the treatment by operation.

With the exception of a few who hold that lupus (which is in all probability a tuberculosis of the skin or mucous membrane) may be successfully treated by parenchymatous injections of bichloride, advanced surgeons have, I think, practically abandoned this mode of procedure in non-caseating lesions. But after caseation or liquefaction of the tuberculous matter has occurred, I think there is abundant evidence to show that injections of solutions of iodoform may be very useful indeed. Since the diffusion of the ether throughout the tissues was frequently accompanied by a good deal of pain, the ethereal solution of Mosestig-Moorhof has been displaced by the glycerine emulsion of Billroth, Andrassy and others, which contains ten per cent. of iodoform. The high specific gravity of this emulsion, as pointed out by Barker, enables it to gravitate to the most extreme ramifications of the cavity. In order that this may occur, the position of the patient should be changed every three or four hours, or less if any particular position were found to be uncomfortable, in order that not only the prevailing dependent, but all other parts also might come in contact with the medication. The method is simply to draw off as much fluid as possible, and then inject as much of the emulsion—40 to 50 grms.—as is thought judicious. I

can. only find record of one case in which grave symptoms of poisoning were noticed, and in that case 200 grms. of a ten per cent. solution were injected (300 grs.). The injections are not repeated while any iodoform is found in the urine. According to Bruns, one of the first effects of these injections is to cause the disappearance of bacilli from the walls of the abscess. This authority reports forty cures out of fifty-four cases of cold abscess after use of the iodoformized ether; Chautemesse has shown that the pus of a tubercular abscess loses its virulence after these injections; Andrassy reports a successful result in twenty out of twenty-two cases; and Barker is "inclined to regard the free use of iodoform as one of the most important advances which have been made of late in the dressing of excision wounds for tubercular diseases." So that, notwithstanding the reproach and contumely which Heyn and Rovsing, Jeffries and Hunter Mackenzie, have sought to cast on this much-abused drug, iodoform has evidently come to stay, and bids fair to outlive the bad odor in which it has so long been held by the profession, and more especially by the laity.

The treatment instituted and I believe almost exclusively practised by Kolischer, of Vienna, deserves at least a passing notice. Struck with the frequency with which tubercular lesions in the lungs heal by calcification, it occurred to Dr. Kolischer to try the effect of supplying tubercular foci with an excess of lime salts. Selecting the acid phosphate as being for many reasons the most suitable, he worked in the following way: When the tubercles had not broken down he injected into the parenchyma an acid solution of biphosphate of lime. As would be anticipated, a high inflammatory reaction follows, accompanied by severe pain, and lasting five or six days. In the case of ulcerations and cold abscesses he uses taupons of gauze impregnated with the same salts. These also set up severe inflammation with its usual accompaniments. During the stage of reaction antiseptic precautions, anodynes and complete rest are enjoined. In the stage of induration, shrinking and absolute painlessness which follows, massage and passive motion are practised. There is no doubt that the high inflammatory reaction thus induced is inimical to

the welfare of the bacilli, and the immediate proximity of the lime salts probably enables the tissues to incorporate them during the temporary cessation in growth of the germs. Whatever may be the *rationale* of this treatment, Kolischer has been able to show some excellent results, such cases as extensive affection of the elbow-joint healing in six to eight weeks and retaining an astonishing degree of mobility—so much so indeed that Professor Albert, in whose clinic the cases were treated, and who was extremely sceptical at first, acknowledged himself a convert and emphatically recommended further investigations in the same direction.

Though the above results and the well-known fact that both pulmonary and the different surgical tubercloses occasionally undergo spontaneous healing, must not be lost sight of, I am strongly of opinion that in nearly every case where it is possible to do so, we will consult the best interests of our patients by waging against this refractory bacillus a bloody and uncompromising warfare with knife, saw, gouge and chisel.

Probably no other surgeon has written more copiously or bestowed so much faithful labor upon tuberculous diseases of bones and joints, and certainly no surgeon has achieved such magnificent results in their treatment, as Arthur E. J. Barker. Hence a large part of what follows is extracted from his recent writings in the *British Medical Journal*. In helping us to a decision as to the mode of treatment to be adopted in any individual case Mr. Marsh's table of 401 cases treated without operation furnishes us an excellent guide. Without going into his analysis, I may state that the percentage of recoveries was so good in non-caseating cases that we are certainly justified in abstaining from all operation as long as there is no liquefaction of the focus. With regard to the caseating or suppurating cases, it may be regarded as a wholesome rule that unless general tubercular disease contraindicates operation, the infected tissues of a joint should be thoroughly removed as soon as discovered. If the suppurating focus be not so removed, it will in all probability run on to the formation of a large abscess with sinuses burrowing in all directions. What then is to be done with cases which have been allowed so to run on? Here excision is out of the question, and the proper treatment will, in the case of

the extremities (excluding the hip) be amputation. In the instance of the hip or a lumbar abscess where amputation is impossible or inadvisable, the only course is to leave them to nature, opening abscesses as they occur, preventing sepsis, and giving every possible attention to hygiene, diet, etc. Even in these most unfavorable cases Marsh's table shows 42.5 per cent. of cures.

We now proceed to examine the dangers we have to encounter and the way to avoid them. We have here to do with a condition that is secondary in the sense that the exciting organism, introduced into the system elsewhere and present in the blood, has found in its wanderings a home peculiarly fitted for its growth in the tissues of the joint. There are many reasons why these tissues are first attacked. In the first place, the patient may have inherited a peculiar debility from phthisical or otherwise unhealthy parents. Then the less resistant tissues of the young are less capable of repelling the attacks of the parasites than the more robust adult tissues, and again the "hurried physiological activity" of the tissues in and around the joints of the young produces a large quantity of highly vascular embryonic tissue, which though abundantly nourished is of inherent low vitality. Finally, there is the predisposition of external injury, using that term in its widest sense. We must remember also that this tuberculous focus must be regarded in the light of a malignant growth, and that its powers of becoming disseminated are such that it must not be disturbed with impunity. If left alone it may remain quiescent for a long time, but Wartmann's statistics of 837 resections show that in at least ten per cent. of the total number of deaths following operation, rapid general miliary tuberculosis followed the surgical interference in such a way as to strongly suggest, if not to prove, that the operation was the exciting cause of the generalization of the disease. Barker, after noting this fact, expresses the belief that a more careful analysis would show a still higher percentage, and suggests that these facts furnish subjects for very grave consideration on the part of the operating surgeon.

That the bacilli are in some way encapsulated in the human body by the granulation tissue invariably found about them appears to be

certain, and though this capsule cannot strictly imprison them, it may prevent their escape into the general circulation in a greater quantity than can be dealt with by the eliminatory powers of the various excretory organs, particularly the kidneys. Volkmann describes such a capsule, and has only found it absent in two out of 1,000 cases. Now, as long as this capsule remains undisturbed we are justified in believing that a very considerable obstacle is offered to the dissemination of the organisms, but if it be dissolved, whether by suppuration, accidental violence or surgical interference, the bacilli may swarm into the lymphatics or veins, and produce generalization of the disease. Barker calls attention to the rapid swelling of the neighboring glands which often takes place when a scrofulous joint has received a fresh injury or has been over exerted. Here too it is probably a question of disturbance of a latent tuberculous focus and the escape of some of the bacilli into the lymphatics. The moral to be drawn from this is that we ought to be careful not only to go wide of the disease whether osseous or synovial, but also to completely get rid of all the contents of any caseous abscesses connected with the joints, together with their lining membranes. Moreover, all this must be done in such a way that no tubercular *debris* shall be left on any of the fresh-cut surfaces to infect the wound or to be taken up by the veins or lymphatics. Finally, the operation must be conducted with as little violence to the injured tissues as possible, so that bruising and laceration is reduced to a minimum. In this way the vitality of the tissues around the wound will not be lowered, and they will be less liable to tubercular infection. "There will also be a minimum of reactionary hyperæmia, with serous exudation after closure of the wound, and no damaged tissues to slough away."

Barker further insists upon the most rigid and uncompromising *asepsis*. The frequency with which severe shock and toxic symptoms followed the use of strong antiseptics in operations upon children, has led to his trusting to vigorous flushing of the wound with sterilized hot water, reserving the use of germicides for a final short mopping of the field of operation just before closing it by suture. At the same time he

bestows far greater care upon the antiseptic scouring of everything which could in any way come in contact with the wound from without. In the case of the hip, the child is washed with soap and water first, and then the part to be operated upon is wrapped for an hour or two in a towel soaked in 1 in 20 carbolic solution. The incision he makes is that proposed by Hunter, or as it is often called, Parker's incision. It commences in the thigh one-half inch below the anterior superior spine of the ilium, and runs downwards and a little inwards for three inches. The knife passes between the tensor vaginae femoris and glutei muscles on the outside, and the sartorius and rectus on the inside, until it reaches the neck of the femur. This incision avoids all muscles, vessels and nerves of importance. As soon as an abscess is opened up a stream of sterilized hot water is turned into it, and this is kept up during the whole of the operation thereafter. The neck of the bone is divided by a small saw in the line of the wound, and the head lifted out. Wherever diseased material is felt it is cut away by means of a flushing gouge or scoop which Mr. Barker has devised for the purpose. The stream carries away the *debris* as fast as it is produced and with it all the blood, while the heat tends to arrest bleeding from fresh-cut surfaces. When all the diseased tissue, whether soft or bony, has been scraped away, and the water runs away clear, the cavity is dried out and stuffed with carbolic sponges, which are left in the wound till the stitches are in place. They are then removed, the cavity is filled with iodoform emulsion, and the sutures are tied, as much of the emulsion as possible being squeezed out at the last moment. No drainage tube is inserted in most cases. After dusting the wound with dry iodoform the whole joint is covered with salicylic wool so adjusted in strips that evenly graduated pressure is brought to bear upon every aspect of the field of operation. The limb is fixed in an abducted position, and when the wool is compressed by a spica bandage the walls of the whole clean-scraped cavity are brought into contact, and the remainder of the neck of the femur is thrust into the acetabulum and secured there. There is thus no actual cavity to drain, and assuming perfect *asepsis*, there is no reason

why all these surfaces should not unite by first intention. The patient is then placed upon a double Thomas' splint.

In operating upon the knee joint he makes one-half of the well-known U shaped incision of Moreau, commencing above the joint and reaching to the margin of the patellar ligament. Or, if necessary, the two halves may be made as far as the margins of the ligament, but without dividing it. If exploration reveals a limited amount of disease and shows the rest to be healthy, the necessary gouging is done and the wound closed up. If, however, there is evidence of disease in the *cul de sac* above the patella or in the condyles of the femur, the formation of the U-shaped flap is completed by removing the tuberosity of the tibia with a chisel and leaving it attached to the ligament, in order that it may be subsequently wired into position again, after the "erosion" or excision of the joint, as the case may be. By means of these incisions the various synovial pockets and the epiphysary lines of the tibia and femur may be examined. Any tubercular foci are gouged or chiselled away—keeping wide of the disease; unhealthy synovial fringes are clipped away, and the wound dressed as in case of the hip. Other joints are treated in a similar way.

In cases of excision or amputation the limb is exsanguinated by elevation instead of by using Esmarch's bandage, for fear that the pressure might break up some caseating focus, and thus force some bacilli into the circulation.

The principles already laid down with regard to tuberculous joints will apply to all other diseased parts so situated as to be within reach of the surgeon. A tubercular tongue or testicle should be cleanly removed; caseating glands and anal fistulae should be thoroughly scraped out with strict antiseptic precautions, and healing induced as quickly as possible. Lesions of the nose, fauces, soft palate and larynx should be vigorously treated, owing to the liability of tubercular foci of these parts to affect the alimentary canal. Weigert's hot air treatment promises well for these lesions.

According to Volkmann, it is extremely doubtful whether nephrotomy or nephrectomy is ever of real benefit when the kidney is affected.

When the bladder and prostate are affected, frequent washings with hot antiseptic solutions, with cystotomy in severe cases, hold out, perhaps, the best hopes of benefit. The question of the treatment of tubercular peritonitis by incision must be regarded as still on its trial. Of 29 cases recorded by Fehling, 6 died, 15 were relieved for a time, and 8 are reported as being relieved for more than a year. Other writers report cases of permanent recovery. Fehling recommends a long incision, and drainage through the vagina when possible. The curative effect is not claimed to be due to the antiseptics used, but to the improved conditions of circulation established by the removal of the encysted fluid which is almost always found.

TREATMENT OF TABES BY SUSPENSION.

BY R. M. SIMPSON, M.D., C.M., L.R.C.P. LOND.,
WINNIPEG.

The treatment of tabes by suspension, which has been recently introduced by Charcot, is at present attracting a good deal of attention in Europe. But little seems to have been said on this subject in Canada, although our American neighbors have in some instances been more enterprising, many of whom claim definite results. Certainly heretofore the profession has had to acknowledge their inability to treat this disease with any degree of satisfaction; hence one is inclined to attribute too much virtue to any new treatment that possesses even a moderate degree of success.

At present there seems to be some doubt about the true pathology of tabes, although the profession generally have considered it for a long time a settled point. Notwithstanding the many theories that have been advanced in explanation of the way in which the "supposed or real" benefit to the patient by the treatment of tabes by suspension is derived, yet it appears to be somewhat obscure. If a really satisfactory explanation were given, one could certainly continue the treatment with more enthusiasm. I herewith submit a report up to date of two cases I have had under treatment for some weeks:

Thos. S., 44, no specific history, family history good, says, "About three years ago felt from time to time pains of a lightning-like char-

acter in hips, thighs and legs, and sometimes a soreness," which he attributed to rheumatism. Patient was treated by Dr. Good some years ago for visual failure with central scolioma, supposed to be due to the excessive use of tobacco. On the cessation of tobacco and the administration of strychnia, the sight rapidly improved. At that time the discs were if anything slightly hyperæmia. They are now normal.

Patient consulted me about 1st March, suffering from all the symptoms of advanced tabes. Was confined to his bed. I concluded to try suspension treatment.

After first suspension, patient says, "Felt rather worse, although pains were not so severe." I, however, continued the treatment thrice weekly, for from two to three minutes at each suspension, the patient, after first time, steadily improving. Can get around now with aid of a stick. Appetite and general appearance has greatly improved. Lightning pains have not altogether disappeared.

Wm. Smith, 37; farmer, formerly blacksmith. Earliest symptoms appeared one and half years ago, became more easily fatigued than formerly, had also pain in back and legs; sexual power slightly increased. Treated for rheumatism. Family history unimportant. Specific history, had sore and slight eruption one year ago; treated by mixed treatment for one year. No tertiary symptoms; lightning pains only occasionally; no gastric crises; well nourished; patellar reflexes absent; Argyl. Robertson pupils; able to walk a mile without unusual fatigue, if not hurried, has been, however, unable to follow his occupation for last six months. Unable to stand easily with eyes shut; sexual power now impaired. Commenced treatment February. Internally mixed treatment and suspension every third day. Disappearance of pains and fornication; appetite improved; can get around without much fatigue; says he feels so well that he thinks he will be able to go to work in a few days.

A STRONG COMBINATION.—The Philadelphia *Medical Times*, The *Medical Register* and *Dietetic Gazette* have combined as one paper and will appear weekly as the *Times and Register*. We wish Dr. W. F. Waugh, the erudite editor, every success.

Selections.

THE ÆTIOLGY AND DIAGNOSIS OF CARCINOMA, ESPECIALLY OF THE TONGUE AND LIP.*

BY PROFESSOR VON ESMARCH.

In introducing the subject the author referred as a matter of history to an effort made by himself to get the subject discussed in a systematic manner twelve years ago by the Society, when Billroth was opposed to such a statistical discussion; it would, as he said, be unsatisfactory, remarking that we made a new experience when a new thought or a new method struck some one, or when a new point of view was presented. He showed that since that date a good deal of statistical work had been done regarding cancer notwithstanding, and that as regarded the mammary disease, statistics had shown that cancer was curable by extirpation, at least for many years; that the probability of a permanent cure was in proportion to the thoroughness and the earliness with which the tumor was removed, and that the dangers of operation had become decidedly less since the introduction of the antiseptic treatment of wounds.

What diminished the value of statistics was the imperfect diagnosis which was frequently unavoidable. His own observation had proved that we were not yet proof against mistakes. The period was gone by when a clinician believed he must pose before his pupils as infallible. Nowadays no teacher would hesitate to declare before his audience that he did not know what the case before them was. In openly confessing his doubt and discussing the means of arising at a more certain diagnosis, he was more serviceable to his pupils than if he had determined the diagnosis from the first. In this respect the discussion that had taken place at the beginning of the year in the Society of Physicians of Vienna on ulcers of the tongue and palate was very instructive. He believed that many unnecessary operations had been undertaken. He thought that syphilitic tumors had been most frequently mistaken for malignant ones. He had reached the conviction

that a great part of the sarcomata and the fibromata were to be reckoned as "syphilomata." The sarcomata of muscular tissues, and probably also the spindle-celled sarcomata belonged to this class, and probably also the cicatricial keloids, and at least a part of the malignant lymphomata. Statistics he had had compiled showed that during the last few years one-half of the sarcomata that had been observed in his clinic belonged to the syphilomata, and were cured by anti-syphilitic treatment. He had also met with numerous cases in publications in which syphilitic diseases of the tongue, lips, mamma, penis, larynx, etc., had been mistaken for sarcomata and carcinomata, and had very frequently led to important and dangerous, or at least mutilating, operations.

Other kinds, such as tubercular tumors, for which he proposed the name "tuberculomata," were less frequently mistaken for sarcoma and carcinoma; they might, however, grow to a considerable size in the tongue, lip, larynx or mamma without breaking through.

That actinomycosis had often been mistaken for malignant tumors was naturally understood, as the disease had only been recognized for the last ten years. Cysts of the jaw and mamma had also been mistaken for carcinoma and sarcoma, and needlessly operated on. The most dreadful mistake to make, however, was that of inflammatory spontaneous fracture of the femur for osteo-sarcoma. Not unfrequently the whole breast, tongue, lips, larynx or uterus had been extirpated when a cure could have been effected by internal treatment or by less radical operations.

The question then came, how should we guard against such errors? They depended generally in too little care being taken before operation to arrive at a correct diagnosis. Of what use was it after the operation to determine the nature of the tumor when the tongue was already cut out or the leg amputated?

Virchow had years ago, and again more recently, insisted that we should not rest satisfied with the clinical diagnosis, but that a microscopical diagnosis should also be made. He had himself for some years past adopted Middeldorpf's "Akidopeirastic," and when this failed he did not hesitate to cut deeply into a tumor, and take out a slice for microscopic examina-

* Delivered before the Eighteenth Congress of German Physicians and Surgeons at Berlin, April 24th to 27th, 1889.

tion. Trepanation, laryngo fissure, external urethrotomy, forcible dilation of the rectum and urethra, and laparotomy were preliminary operations for diagnostic purposes that were either permissible or demanded in many cases. He considered it to be the surgeon's duty in the case of tumor of the larynx giving rise to a suspicion of cancer that could not be extirpated from the mouth, to at once split the larynx in order to be able to ascertain with certainty the nature of the malady. The abdominal cavity was opened without hesitation when it was a question of the diagnosis of a disease dangerous to life.

In cases in which repeated examinations gave a negative result, a suspicion of syphilis was justifiable, and in such cases anti-syphilitic treatment could be introduced. He had seen many cases of muscular sarcoma disappear, and had become convinced that in most cases, perhaps in all cases, of sarcoma of muscle, the tumor was really syphiloma; anti-syphilitic treatment would decide the diagnosis, but it must be steadily persevered in for months. In many cases in which potassium iodide was not efficient, inunction, infusions, arsenic would effect removal of the supposed sarcoma. He had proposed the following method in all tumors of the tongue and lips: Where the microscope showed epithelial cancer in the part scraped and excised, to proceed at once to extirpate the tongue and the parts around; if tubercle bacilli were found embedded in the connective tissue, to scrape out the accompanying tissue and apply the cautery; if the fungus of actinomycosis were found, to scrape out and apply sublimate gauze; if spindle cells were found, to first suspect a syphiloma and commence energetic anti-syphilitic treatment. The microscope should also be used from time to time, as a syphiloma could be converted into cancer. If a syphiloma were excised by mistake, it would quickly recur, and finally general marasmus would terminate the scene. The distinguishing characteristics of malignancy were, the disposition to rapid growth, the recurrence of the tumor, the accompanying affection of the lymphatics, metastases, and finally incurability; but the anatomical appearances did not allow a certain conclusion as to the malignancy; the course of cases of tuber-

culosis was extraordinarily various; sometimes they remain superficial for years, and in others, even after careful clearance of the diseased parts, great destruction of tissue took place, and rapid return. Tuberculosis of the peritoneum was often cured by removal after laparotomy.

Respecting ætiology, all investigations into the final cause came back upon the assumption of a predisposition, a diminished power of resistance, weakness of the tissues (Virchow, Paget, Thiersch, Billoth, Cohnheim). Winiwarter could only demonstrate heredity in six per cent. of cases. Sarcoma originated in extreme growth of the connective tissue, especially of the walls of vessels, carcinoma in growth of the epithelium. It was not impossible that occasionally the penetration into the neighboring tissue by the exuberant tissue was due to weakness of the former. The origin of sarcoma from syphilis was suggestive as to the origin of malignant tumors generally. Syphilis, especially the old, which was imperfectly treated, uncured, apparently extinguished, left behind a disposition to growths from the groups of connective tissue (gummatous inflammations), gummata which occasionally after injury and irritation of any kind gave rise to tumors of the connective tissue groups (sarcoma, fibroma, myoma, neuroma); these were often curable by internal remedies, and sometimes disappeared of themselves with suppuration or erysipelas. If such were removed, they sometimes did not return, but they generally did return with the greatest persistence and at constantly lessening intervals. Like the most malignant tumors, they could give rise to the formation of general metastasis through the lymph and blood-vessels. Many syphilomata were disposed to fatty degeneration, caseation and ulceration; in others the cell formation was massive and always remained at the earliest stage. He remarked that want of evidence of syphilis did not exclude it, as it might be hereditary, and originating in earlier generations, just as gout, diseases of the blood and skin and others were handed down, and such inherited diseases sometimes showed themselves for the first time in apparently perfectly healthy individuals, and late in life, leaping over several generations and again distinctly recurring. The inheritance of syphilis had been indisputably proved. That generations could escape

this incidence was probable. Numbers had also died off before the disease had made its appearance. From time immemorial syphilis had reigned in the most widely separated parts of the world as an endemic disease (Völskrankheit) and committed the greatest devastations, and it was only at the beginning of the century that it lost its endemic character. As it could not be supposed that all those families in which the disease had existed had died out, it was not improbable that in their descendants a tendency to the development of connective tissue growths should have remained, even if they appeared healthy and strong. Whether the tendency to the growth of the epithelial tissues into carcinoma could be explained in the same way must be left over to future investigation. It was known that growths of the superficial layer of the epidermis were hereditary to a high degree, for example, xeroderma, psoriasis, ichthyosis, eczema. He remarked, in conclusion, that cancer was curable when it was extirpated with the knife sufficiently early and widely. Only when it was too late for operation should the attempt be made to effect a cure by internal remedies.

—*Medical Press and Circular.*

A TONIC FORMULA.

BY AUSTIN FLINT, M.D., LL.D.

In the *New York Medical Journal* for July 31, 1886, Professor Allard Memminger, of Charleston, S. C., published a short article on "Bright's Disease of the Kidneys Successfully Treated with Chloride of Sodium." The suggestion by Professor Memminger, and his theory of the mode of action of the sodium chloride, pointed to a possible deficiency in certain cases of disease in the saline constituents of the blood. Under this idea I prepared a formula in which most of the important inorganic salts of the blood are represented, with an excess of sodium chloride and a small quantity of reduced iron, the various salts, except the sodium chloride, being in about the relative proportion in which they exist in the normal circulating fluid, I first used this preparation in the form of powder, giving ten grains three times daily after eating. It was afterwards put up in gelatin capsules, each containing five grains, but these absorbed moisture so that they would not keep

well in warm and damp weather. With the assistance of Fraser & Company, 208 Fifth Avenue, New York, I finally modified the formula so as to avoid this difficulty. The preparation is now in the form of compressed tablets made by Fraser & Company, tablets made by Caswell, Massey & Company, 1121 Broadway, and sugar-coated tablets made by Wanier & Imgard, 1322 Broadway—all under the name of saline and chalybeate tonic. I usually prescribe two tablets three times daily after eating. Of these preparations I prefer the sugar-coated tablets, the others occasionally producing slight nausea. In a few cases six tablets daily have produced some "fullness" of the head, when I have reduced the dose to one tablet three times daily.

The following is the formula that I finally adopted, the product of which may be put up in capsules:

Saline and Chalybeate Tonic.

R Sodii chloridi (C. P.)	5 iij ;
Potassi chloridi (C. P.)	gr. ix ;
Potassi sulph. (C. P.)	gr. vj ;
Potassi carb. (Squibb)	gr. iij ;
Sodii carb. (C. P.)	gr. xxxvj ;
Magnes. carb.	gr. iij ;
Calc. phos. præcip.	5 ss ;
Calc. carb.	gr. iij ;
Ferri redacti (Merck)	gr. xxvij ;
Ferri carb.	gr. iij,

M. In capsules, No. 60.

Sig.: Two capsules three times daily after eating.

I first used this tonic in a case of simple anæmia in Bellevue hospital in July, 1887. In this case the anæmia was profound and the pallor excessive. It had existed for several weeks, there was loss of appetite, and the patient, a female about thirty years of age, was very weak and unable to leave the bed. A powder of ten grains was given three times daily, and this, with good diet, constituted the only treatment. In forty-eight hours the patient was sitting up, with a fair appetite and improved in appearance, notably in color. At my next visit, two days later, she had left the hospital and was greatly improved.

Since the summer of 1887 I have given the tonic in nearly every case in private practice in which a chalybeate was indicated. In many

cases I have not been able to watch the effects of the remedy, and in many I kept no records. In thirty-three cases which I have noted as cases of anæmia, with loss of appetite, etc., I have more or less complete records. In twenty-two cases I noted very great improvement, in twelve cases improvement not so well marked, and in one case no improvement.—*New York Medical Journal*.

THE HOT-AIR TREATMENT OF TUBERCULOSIS.

A supplement to the *Berliner Klin. Wochenschr.*, of March 11th, contains a recent address, by Professor Kohlschütter, on Weigert's hot-air treatment of pulmonary tuberculosis, given at a meeting of the Aertzte-Verein, in Halle, on February 20th. The fact that this treatment has already become a subject of comment by the newspaper world did not deter the speaker from examining the question scientifically. It is known that tubercle bacilli are peculiarly susceptible to influences of temperature; their vitality is lowered by a temperature of 101.3° F., and they are killed by a temperature of 107.6° F. To breathe hot-air continuously for long together is impossible—only one of the speaker's patients could do so for as long as an hour—and the beneficial action of hot air in the above sense must be on the well-known principle of intermittent gradual sterilisation, the germs being killed off in successive crops as they develop. Weigert, in attempting to apply this clinically, showed that extremely hot dry air can be breathed without injury. In Weigert's apparatus (which may be procured from A. Meissner, 71 Friedrichstrasse, Berlin), the thermometer shows a temperature between 480° and 590° F., and, although the air actually inspired is doubtless not so hot as this, it is hot enough to cause the expired air to have a temperature of 60° C. (140° F.). In a particular case of Professor Kohlschütter's, the following effects were observed: in seven weeks after inhalation, twice daily, the chest-girth increased from 89 to 95½ centimetres, and a pleuritic exudation in the left side was absorbed. Crepitation and dulness were replaced by normal physical signs, and good breath-sounds were heard over both lungs. Careful examinations of the sputa

showed that the bacillary appearances were remarkably altered. At first the bacilli were numerous, and more or less uniformly scattered; subsequently they were found only in groups of three or four, and were far fewer. At a later stage they had all but disappeared. The temperature of the body rises about the third of a degree (F.) after each inhalation, but soon subsides. The pulse frequently showed a difference of only five, as counted before and after each inhalation. The respirations became deeper and slower; the patient in question—several others were treated—at last could do with seven respirations per minute; this is ascribed to the difficulty of inspiring through long tubes. The previous dyspnoea was lost, and more exercise could be taken. The cough at first increased a little, the expectoration considerably; but, at the date of the address, both were lost altogether. The bodily weight had increased from 73 to 73.57 kilos. (nearly 2 lbs.) The author expresses himself as well satisfied with the results so far, and thinks this method of treatment worthy of more extended trial.—*Brit. Med. Jour.*

CORNUTIN IN OBSTETRICS AND GYNECOLOGY.

Dr. H. Thomson reports some results obtained with cornutin at the Clinic of Professor Kustner at Dorpat. According to Dr. Kobert, the remedy was administered either subcutaneously, in the following formula:

℞ Cornutin	grain ¾.
Water	5 ijs.

Mix, make solution, and add:

Hydrochloric acid	gtt. iv.
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or in the form of pills:

℞ Cornutin	grains 1 ⅞.
Hydrate of aluminium	" 46.

Add water and glycerine aa q. s. for twenty pills.

Dose, two to three pills.

The cornutin in solution generally is not to be recommended, as it becomes cloudy and unfit for use in a very short time. In weak or inefficient pains the use of this drug is, according to Drs. Thomson and Erhard, not to be recommended, while in atonic hemorrhage or after abortion it is of great value. Especially rapid is its action in metro- and menorrhagia

following endometritis, metritis and inflammatory conditions of the uterine appendages. In two cases of menorrhagia the result of endometritis, from one-third to one-half grain of the drug, subcutaneously administered, produced intense lumbar pains followed by complete cessation of the hemorrhage within ten minutes. The influence of the drug lasted for two hours, after which another dose was necessary. In a case of very severe metrorrhagia caused by double ovarian tumors, two three-quarter-grain doses gave entire relief.

The average dose of this drug is from one-thirty-second to one-eighth grain subcutaneously and from one-eighth to one-fifth grain by the mouth.—*Wiener Med. Presse.—Medical News.*

CANNABINE TANNATE.—The sleep caused by a properly constituted cannabine tannate is a refreshing one, devoid of any unpleasant accessory effects, and, what is very remarkable, doses as small as 0.06 gramme (1 grain) were sufficient to bring about this beneficent effect, in cases where 0.02 gramme ($\frac{1}{2}$ grain) of morphine had been employed without result. J. Prior concurs with Vogelgesang and Mendel—confirming the experiences of both—that hysteric patients, who were not benefitted by either morphine or chloral hydrate, experienced the happiest results from cannabine tannate, so that the latter drug must be declared a very desideratum for such patients.—*Merck's Bulletin.*

ANTIPYRINE IN THE TREATMENT OF HÆMORRHOIDAL ULCERS.—In the "Therapeutische Monatshefte," quoted in the "Centralblatt für Chirurgie," Dr. J. Schreiber gives an account of the case of a man, seventy-two years old, who had suffered for ten years with most obstinate hæmorrhoidal ulcers. By dusting the ulcers for twenty days with finely-powdered antipyrine, Schreiber produced a perfect cure. Each application caused moderate pain lasting for about half a minute, but the effect of the drug on the pain and continual itching of the ulcers was very favorable.—*N. Y. Medical Journal.*

HOW TO DISGUISE THE BITTERNESS OF QUININE.—To mask the bitter taste of quinine, Hugo Engel recommends a combination of this alkalo-

loid with sal. ammoniac and licorice, according to the following formula:

R—Quinæ sulph., 1 part.
Ammonii chloridi, 1 part.
Pulv. glycyrrhizæ, 4 parts.

Mix thoroughly the two latter substances, previously reduced to powder, incorporate with them the sulphate of quinine, and make an electuary with a little syrup of honey.—*Med. Age.*

LANTANINE is an alkaloid recently discovered by Boniza and Fegrita (*chemisches contrablatt*) in the well-known plant *lantana brasiliensis*, which the native Peruvians call "yerba sagrada." Lantanine acts as an antipyretic in febrile conditions, similarly to quinine. It is well borne by even weak stomachs, and has proved of excellent efficacy in intermittent fevers which had resisted quinine. Lantanine may be given within the limits of 0.1 to 2.0 grammes ($1\frac{1}{4}$ -30 grains) per diem; it is best administered immediately after a febrile attack, whose return it then usually prevents.—*Merck's Bulletin.*

A POWDER FOR SORE FEET.—From Germany comes a bit of valuable information for policemen, carriers, collectors and others whose occupation requires them to be on their feet a great deal. No matter how comfortable or roomy their shoes, such persons are almost always more or less troubled with chafed, sore or blistered feet. The difficulty may be readily overcome by the use of a powder which is a necessary part of the German army equipment. It is known there as "Fussstrepulver," and consists of three parts of salicylic acid, ten parts starch and eighty-seven parts pulverized soapstone. It keeps the feet dry, quickly heals sore spots and prevents chafing. A powder of pulverized soapstone is also good.—*American Druggist.*

REMUNERATION FOR CLUB PRACTICE IN VIENNA.—From a circular which has just been issued by the Council of the Vienna "Collegium" of medical practitioners, it would appear that it is possible to obtain a somewhat more adequate recompense for professional services rendered to members of clubs and other societies in that capital than it usually is in

London or most provincial towns in this country. The circular lays down that when the club pays the doctor per attendance, the lowest fee ought to be 50 kreutzers for advice at the doctor's house and a florin for a visit. When a club engages a doctor by the year, the minimum salary should be 3000 florins, corresponding to a payment per member of 3 florins annually. Medical men are warned in the circular not to enter into competition with each other by offers to accept too low terms of remuneration.—*Lancet*.

CEREBRO-SPINAL MENINGITIS.—Whilst there has been a remarkable diminution in the frequency of puerperal disease there had been an opposite tendency in another form of infective disease. I mean cerebro-spinal meningitis. This grave affection was formerly of rare occurrence, and in isolated cases, during the past few years, however, it has become decidedly more frequent, and has in certain places taken on an epidemic character. The police authorities have at last taken notice of the aggressive attitude of the disease, and have issued regulations placing it on the same footing as regards notification, disinfection, etc., as other infectious disorders. Medical men are now instructed to give notice of the occurrence of cases. Patients attacked must as much as possible be isolated. The children of a family in which a case occurs are to be kept away from school so long as there is danger of infection, and the room, all utensils and clothing must be disinfected in a way satisfactory to the health authorities.—*Berlin Cor. Med. Press and Circular*.

VESICAL EXPRESSION.—In view of all that has been said about uterine expression, it is somewhat singular that heretofore nobody seems to have thought of employing compression of the urinary bladder in cases of retention not dependent on a mechanical impediment to the flow of urine. A recent number of the *Deutsche Medicinal-Zeitung* contains an abstract of an article contributed to the *Berliner klinische Wochenschrift* by Dr. Julius Heddaeus, in which the author states that he has often made use of vesical expression with success. He gives a minute description of two different forms of manipulation, but it is sufficient for all practical purposes to say that, with the patient in such a

position as to relax the femoral muscles, the bladder is grasped with both outspread hands and gentle and steady compression from above downward and backward made by approximating the thumbs to the fingers, the force being directed towards the neck of the organ. The procedure is said to be painless and free from danger in properly selected cases. If, however, it is not successful readily, recourse must be had to catheterism, and it is contra-indicated in cases of abdominal inflammation or great tenderness and during pregnancy. Corpulence, abdominal tumours, and the like make it difficult and sometimes impossible.—*N. Y. Med. Jour.*

THE MYCOLOGY OF THE FEMALE ORGANS OF GENERATION IN HEALTH.—A systematic investigation has been recently conducted by Dr. G. Winter (*Zeitschrift für Geburtshilfe und Gynäkologie*), in order to determine the nature of the micro-organisms that are normally found in the sexual organs of healthy women. The author states that the Fallopian tubes in health contain no microbes of any kind, and this also applies to the cavity of the uterus. In about one-half of the cases examined, the region of the internal os showed the presence of various microbes. The cervical canal is almost invariably the seat of numerous organisms, and it is a noteworthy fact that their number increases in the condition of pregnancy. In the vagina in healthy woman various microbes are a constant occurrence. Dr. Winter has also found that there is a decided preponderance of staphylococci over other varieties of germs in the genital organs of women. He assumes that they are identical with the pathogenous cocci, but admits that his inoculation experiments were not conclusive. The explanation given of this apparent inconsistency is plausible enough. Normally these microbes vegetate in a condition of lessened virulence; but if putrescible material or necrotic tissues supplant the healthy substances, their original virulence is fanned into activity. The practical inference is seen at a glance; and it may be stated that most gynecologists are already practising the strict antiseptics which these observations would place in the light of an absolute necessity rather than an optional procedure.—*Medical Record*.—*Buffalo Medical and Surgical Journal*.

THE

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TORONTO, JUNE 1, 1889.

FROM ENGLAND TO BANFF.

THE *British Medical Journal* has published the circular of Dr. Bell, the General Secretary of the Canada Medical Association, which was recently sent to the members. As intimated therein, efforts are being made to secure special rates from Liverpool to Montreal, and it was hoped that a number of physicians of Great Britain would be induced to attend. It unfortunately happens, however, that the meeting of the British Medical Association will take place about the same time, and it is thought that this fact will keep many of the Britishers at home who otherwise would have come over to see our Banff among the Rockies.

THE BANFF MEETING.

WE understand that the officers of the Canada Medical Association, especially the President and General Secretary, are making the most strenuous efforts to complete all arrangements for the coming meeting at Banff in as satisfactory a manner as possible. Toronto will probably turn out a pretty strong contingent, which is likely to include the following: Drs. J. H. Richardson, R. A. Reeve, L. McFarlane, F. Grasett, C. O'Reilly, J. E. Graham, Adam Wright, Carlyle, W. H. B. Aikins, J. H. Burns, E. E. King, G. S. Ryerson, G. R. McDonagh, I. H. Cameron, J. E. White, C. Sheard, Lehmann and Strange. We are requested by Dr. Bell, the Secretary, to ask physicians who intend to present papers to notify him as soon as possible.

PUERPERAL FEVER IN MATERNITY HOSPITALS.

WE have heard much frequently about the freedom from puerperal fever in large maternity hospitals under modern antiseptic methods. The records of large lying-in hospitals during the last few years have been as a rule very satisfactory, but in each and all endless and sleepless vigilance is required to prevent a return of the dread enemy—septicæmia. We learn from the *Medical Press and Circular*, that puerperal fever of an epidemic character has lately broken out in the Third Maternity Klinik of the University of Vienna, which is under the directorship of so careful and skilful an obstetrician as Dr. Gustav Braun, and as a consequence the klinik has been closed. It is quite likely that the causes in this particular instance can without much difficulty be discovered. They are probably simple carelessness and negligence on the part of some who came in contact with the patients. If so, such conduct is almost, or altogether criminal, when considered with our modern light, and should receive its proper reward of punishment.

THE COUNCIL EXAMINATIONS.

THE results of the recent examinations of the Medical Council have, from the students' point of view, been somewhat startling. The "slaughter of the innocents" at the primary was terrific, 54 per cent. "getting left." An occasional good man has had what the students call hard luck in getting spun with a good average record, but a deficit of one or two marks in one subject. Such accidents are apt to occur at all stiff examinations, and we do not see how they can be avoided. Generally speaking, the candidates who knew their work were passed, and the other fellows were plucked. We understand from some members of the Council that this is the very purpose for which the examination was instituted, and consequently the rejected will have to accept the inevitable with the best grace they can. The profession of Ontario will accept the results without much excitement, because they will tend to elevate the standard of medical education in the Province, while at the same time sufficient of the finals have passed to supply all immediate and pressing demands.

NOTES.

THE Charité, the largest hospital in Berlin, is to be greatly enlarged.

A SERIOUS outbreak of cholera has occurred on the island of Ceylon.

ETHYL bromide must not be accepted as a new anæsthetic. It was used by a surgeon of Leeds in 1849.

DR. CLIFFORD ALLBUTT, of Leeds, has been appointed a Commissioner of Lunacy at a salary of \$7500 a year.

A NEW medical periodical of an official character, to be known as the *Klinisches Jahrbuch*, will be published in Berlin.

THE American Society of Microscopists will hold their next annual meeting in Buffalo, August 20th to 23rd, inclusive.

THE Emperor of Germany has conferred the Red Eagle on Dr. Felix Semon, Assistant-Physician in charge of the Throat Department, St. Thomas's Hospital, London.

SIR HENRY PITMAN has retired from the Registrarship of the Royal College of Physicians, a post which he held for thirty years. A retiring pension of five hundred and twenty-five guineas was granted him. Dr. Edward Lieving is his successor.

THE overcrowding of the hospitals in Paris (*Lancet*) is occupying the attention of the public. There are at present in the wards 850 stretchers, which are placed between the beds, much to the prejudice of hygiene and to the well-being of the patients.

THE editor of the *British Medical Journal*, Mr. Hart, is to be assisted by a committee of two members, with whom he will share the responsibility of the issue of each number of the journal. For each weekly visit to the office of publication each member of the committee will be paid two guineas.

DR. C. J. B. WILLIAMS died at Cannes at the advanced age of 84 years. He was well known as an expert in pulmonary affections.

CANADIAN MEDICAL ASSOCIATION. — The certificates from the railroad companies are now ready and will be forwarded to intending delegates on application to the Secretary, Dr. Bell, of Montreal. Delegates should state whether they will be accompanied by their wives or not, so that the number of tickets may be mentioned in the certificate.

Note—Departure should be arranged so as to connect with train leaving Montreal for Toronto on the evening of 6th August. Delegates from west of Kingston go by way of Toronto, and from Kingston, Sharbot Lake and east, via Montreal and Carleton Junction.

Tickets issued on these certificates will be good only for going trip between the 5th and 13th of August, inclusive, by which latter date the journey to Banff must be completed.

Results of Examinations.

COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

The following gentlemen passed successfully the final examinations before the Ontario College of Physicians and Surgeons:

W. J. Armstrong, Bayfield; R. R. Anderson, Hornby; H. W. Armstrong, Baillieboro; A. E. Almas, Hagersville; F. J. Brodd, Campbellford; J. Brown, Campbellford; W. E. Bateson, Cresswell; W. W. Birdsall, Delhi; A. F. Bolton, Portland; J. J. Broad, Sonya; J. E. Bowman, Dundas; H. Becker, Crief; T. A. Beaman, Bancroft; E. Ball, Weston; G. M. Bowman, Hamilton; P. Brown, Oshawa; G. B. Carbert, Orangeville; G. K. Crosthwaite, Bartonville; J. Campbell, Mapleton; J. H. Collins, Whitby; J. T. Campbell, Whitby; J. Carruthers, Cayuga; G. Chambers, Woodstock; C. P. Clark, St. Mary's; H. Chapple, Newcastle; J. Crawford, Glencoe; W. H. Clapp, Toronto; Miss Jennie S. Carson, Strathroy; J. A. Creasor, Owen Sound; R. C. Charonhouse, Eganville; R. M. Cooper, London; C. A. Cline, Belmont; H. N. Coutlee, Sharbot Lake; M. C. Dewar,

Toronto; W. C. David, Kingston; W. A. Dixon, Toronto; G. A. Dickinson, Ligon; John Duff, Inverary; W. J. Early, Owen Sound; J. F. Emery, Gananoque; A. R. Elliott, Belleville; W. Egbert, Dunville; A. T. Emmerson, Peterboro; H. C. S. Elliott, Toronto; J. B. Fraser, Spencerville; T. A. Fitzgerald, Millbrook; S. M. Fraser, London; A. E. Garron, Ottawa; J. B. Gamble, Toronto; F. E. Godfrey, Belgrave; W. C. Gilchrist, Barrie; J. A. Greenlaw, Palmerston; M. E. Gilrie, Bosworth; H. Grundy, Toronto; D. Henderson, Bradford; H. Holliday, Port Perry; J. S. Hart, Wilfred; A. E. Hillker, Port Elgin; W. E. Harding, Brockville; L. S. Hixon, La Salle, N.Y.; R. H. Honner, London; J. Holdercroft, Tweed; F. B. Harkness, Kingston; C. H. Hamilton, Shelburne; J. A. Joly, Jarvis; W. T. Irwin, Pembroke; W. Kerr, Guelph; O. L. Kilburn, Toledo; H. O. Lafeur, Newburgh; W. C. Little, Barrie; H. T. Meiklejohn, Stirling; W. J. Milne, Blyth; A. J. MacAuley, Frankford; M. J. Maxwell, Brockville; E. Meek, Alton; T. J. Moher, South Douro; J. T. McKillop, Beachburg; T. P. McCulloch, Dundalk; T. J. McNally, Walkerton; D. McKay, Bradford; J. R. McCabe, Adelaide; J. Y. McLachlin, London; J. M. McFarlane, Toronto; C. McLachlin, Toronto; D. H. McIntosh, Carleton Place; Geo. McDonald, Renfrew; T. C. McRitchie, Morepeth; P. W. H. McKeown, Toronto; H. McKeicher, Stittsville; Miss Isabel McConville, Kingston; W. W. Nasmith, Toronto; H. S. Northmore, Cataraqui; W. S. Philp, Brampton; J. A. Patterson, Port Elgin; R. H. Palmer Danforth; T. C. Patterson, Grafton; G. S. Rennie, Hamilton; A. J. Reynolds, Palmerston; S. T. Rutherford, Millbank; D. A. Rose, Toronto; J. A. Ross, Barrie; W. H. Rankin, Collinsby; A. A. Smith, Ridge town; A. Stewart, Douglas; W. A. Saigsber, Stouffville; G. Silverthorne, Summerville; A. Y. Scott, Toronto; E. T. Synder, Odessa; H. A. Stewart, Toronto; R. N. Topp, Bracebridge; H. A. Turner, Millbrook; J. L. Turnbull, Newton; R. A. Westley, Williamston; H. Wallwin, Barrie; H. P. Wilkins, Toronto; J. A. Wylie, Wisbeach; A. J. Wilson, Berlin; R. J. Wade, Brighton; W. R. Wade, Brighton; A. E. Wills, Belleville; H. W. Wilson, Huntley; W. M. Wright, Flesherton; J. A. Webster,

Toronto; T. T. H. Williams, Clarendon; S. A. Young, Ridgetown; H. A. Yeomans, Belleville.

Six ladies passed the primary, and two, Miss Jennie S. Carson, Strathroy, and Miss Isabella McConville, Kingston, passed the final. Ten Toronto candidates passed the primary, and fifteen passed the final.

MEDICAL FACULTY MCGILL UNIVERSITY.—

The following gentlemen, thirty-eight in number, have fulfilled all the requirements to entitle them to the degree of M.D., C.M., from the University: Aylen, W. W., Aylmer, Q.; Booth, J. S., Montreal, Q.; Brown, G. A., Charlottetown, P. E. I.; Campbell, G. G., B.Sc., Truro, Delaney, W. J., Peterboro, O.; England, W. S., Dunham, O.; Esson, F. G., Halifax, N. S.; Garrow, A. E., Ottawa, O.; Gemmill, E. W., Almonte, O.; Holmes, A. D., Chatham, O.; Hopkins, F. A., Cookshire, Q.; Hubert, P. T., Harbor Breton, Nfld.; Irwin, W. T., Pembroke, O.; Kerr, N., Holyrood, O.; Low, D., Palmerston, O.; Martin, J. M., Brown's Creek, P. E. I.; Mathieson, C. S., Harrington, P. E. I.; Morehouse, O. E., Gibson, N. B.; Mowat, M. M., Williamstown, O.; Muirhead, D. A., Carleton Place, O.; Murray, D. A., Black Meadows, N. S.; McCurdy, T., Ormstown, Q.; McDonald, A., Iroquois, O.; McDonald, H. N., Laggan, O.; McDonald, G., Renfrew, O.; McDonald, P. A., Alexandria, O.; McEwen, H., Carleton Place, O.; McIntosh, D. H., Carleton Place, O.; McKercher, H., Stittsville, O.; McKinnon, T. S., Lockport, N. S.; McLellan, A. A., Summerside, P. E. I.; Philp, W. S., Montreal, Q.; Shanks, A. L., Huntingdon, Q.; Vipond, A. E., Montreal, Q.; Wheeler, C. L., B.A., Montreal, Q.; Whyte, J. J., Lancaster, O.; Wylde, C. F., Halifax, N. S. The Holmes gold medal, for the best examination in all the branches comprised in the medical curriculum, is awarded to Alexander E. Garrow, of Ottawa, Ont. The prize for the best examination in the final branches is awarded to Hugh McKercher, of Stittsville, Ont. The prize for the best examination in the primary branches is awarded to William Arthur Brown, of Chesterville, Ont. The Sutherland gold medal is awarded to John C. Clemesha, of Port Hope, Ont.

Hospital Practice.

TORONTO GENERAL HOSPITAL — SUPRA-PUBIC LITHOTOMY.

UNDER THE CARE OF L. M'FARLANE, M.D., TORONTO.

Reported by Dr. Thompson.

D. H., æt. 47, had always been strong and healthy; served in the war of '63, when he was wounded in the left leg by a bullet entering the inside of the left thigh six inches above the knee, and coming out on the opposite side an inch higher up, causing a compound fracture of the femur, which resulted in necrosis and discharge of pus for five years, when the sinuses healed up and he was able to use the limb. Towards the latter part of the year '64, while still lying in bed, he began to notice severe pains in his sides, shooting down to the scrotum, after which small round gravel stones about the size of partridge shot came away with the urine, when the pain in the side would go away. He had about six of these attacks, covering a period of three months. He had no pain to signify after this, and gradually improved, but in a few months noticed a difficulty in passing water, the stream being cut off short and a sharp pain after urinating passing from the neck of the bladder to the end of the penis. This pain was not always felt on urinating, but it began to increase when he passed a stone the size of a bean. He then began to feel others there. After two years in this way, he went to the Pollen Springs in Maine, where he drank large quantities of the water, which gave him relief, and these symptoms nearly all went away. After leaving these springs he went to another part of Maine and engaged in the tailoring business. The pain in the bladder and penis returned, but was not so severe as to prevent him from working for ten years. He then had to give up tailoring, and began travelling as a book agent. These symptoms increased, and he decided to come to the Toronto General Hospital, where he was examined by Dr. McFarlane, who detected several stones in the bladder, and decided to operate, choosing the supra-pubic operation.

The operation was performed on May 3. When the bladder was opened it was found to

contain twelve stones, varying in weight from one ounce and a half to twenty grains. The total weight of the stones was four ounces and a half. The patient made a rapid recovery, being able to leave his bed and walk about in three weeks. The abdominal wound was healed and the water passing through the natural channel at that time. The section in the bladder was sutured with silk.

Books and Pamphlets Received.

Elements of Histology. By E. KLEIN, M.D., F.R.S. Philadelphia: Lea Brothers & Co.

Warner's Therapeutic Reference Book. 119 pages. Philadelphia: Wm. R. Warner & Co.

Color Blindness in its Relation to Railroad Employees and the Public. By G. S. RYERSON, M.D. Toronto: J. E. Bryant & Co., Medical Publishers.

Electro-Therapeutics, or Electricity in its Relation to Medicine and Surgery. By WM. HARRY KING, M.D. New York: A. L. Chatterton & Co., 78 Maiden Lane.

Practical Lessons in Nursing. Diseases and Injuries of the Ear. By CHARLES HENRY BURNETT, A.M., M.D. 12mo, 154 pages. J. B. Lippincott Company. Price \$1.00.

An Elementary Treatise on Human Anatomy. By JOSEPH LEIDY, M.D., LL.D. Second Edition. Re-written. 8vo, 950 pages. J. B. Lippincott Company, 1889. Price \$6.00.

Immunity through Leucomaines. By EUSEBO GUELL BACIGALUPI. Translated from the second French edition, by R. F. Rafarl, M.D. New York: J. H. Vail & Co., 21 Astor Place, 1889.

"*Merck's Bulletin*," a monthly record of new discoveries, introductions or applications of medicinal chemicals. Subscription price one dollar per annum. E. Merck, 73 William Street, New York City.

Lectures on Nervous Diseases, from the standpoint of Cerebral and Spinal Localization, and the later methods employed in the diagnosis and treatment of these affections. By AMBROSE L. RANNEY, A.M., M.D. Philadelphia: F. A. Davis, Publisher, 1888.

Cyclopædia of the Diseases of Children, Medical and Surgical. The articles written especially for the work by American, British and Canadian authors. Edited by JOHN M. KEATING, M.D. Vol. I. Illustrated. Philadelphia: J. B. Lippincott Co., 1889.

A Guide to Therapeutics and Materia Medica. By ROBT FARQUHARSON, M.D., F.R.C.P., London. Fourth American from the Fourth English Edition. Enlarged so as to include all preparations officinal in the U. S. Pharmacopœia. By FRANK WOODBURY, M.D. Philadelphia: Lea Brothers & Co., 1889.

Personal.

DR. ALLEN BAINES will start for England on June 6th.

DR. W. H. B. AIKINS has removed to 50 College Ave.

DRS. G. A. FERE and J. Guinane, of Toronto University, have passed the required examination for the L. R. C. P., London.

We are pleased to learn that Dr. W. Beattie Nesbitt, of this city, has been elected a Fellow of the Royal Chemical Society of London, Eng.

DR. HOLFORD WALKER has returned from Mr. Lawson Tait's Hospital, Birmingham, and has his Sanitarium on Isabella Street nearly ready for the reception of patients.

The following have been appointed as resident assistants in the Toronto General Hospital. Their duties commence June 1st: J. H. Collins, Whitby; H. A. Turner, Millbrook; H. A. Yeomans, Belleville; H. W. Armstrong, Bailieboro'; J. M. McFarlane, Toronto; E. Meek, Alton.

Miscellaneous.

ROBERT S. ANDERSON, M.D., Spennymoor, England, says: "I have found your S. H. Kennedy's Extract of *Pinus Canadensis* of great service as an injection, in cases of gonorrhœa."

THE SYMS OPERATING THEATRE.—It is reported that the Roosevelt Hospital is likely to receive by bequest from the estate of the late

Mr. William J. Syms the large sum of \$350,000 for building and maintaining a new operating theatre. It is said that the building, together, we presume, with its equipment, is to cost \$250,000, and that the remainder of the legacy is to be invested, and the income applied to the maintenance of the theatre.—*N. Y. Med. Jour.*

It is well known that some patients become so much attached to the hospital wards that they would gladly spend their life—a good long life, too—there. For chronic cases of this kind there is kept at the New York Hospital a medicine, bearing in prescriptions the name of *Mistura Errabundi*, but known in the vernacular as "The Undertaker's Revenge." It consists of an appetizing mixture of copaiba, castor-oil, and quinine, and has been found most efficacious.—*The Medical Press.*

THE LATE GENERAL STAFF SURGEON VON LAUER.—This distinguished officer, whose death on the 9th inst. was announced, was buried on the 12th. Every possible mark of respect was shown on the occasion by high and low, from the Emperor to the humblest official. Born like von Langenbeck and von Bergmann, in a parsonage, he attained the highest honours it is customary to confer on members of our profession. For the long period of 44 years he was body surgeon to the late Emperor William. It was in 1843 that he first met the then Prince William of Prussia, and in the following year he became attached to him as body surgeon. From that time he never left him, but accompanied him on all his travels and campaigns, and materially assisted by his advice in furthering sanitary matters in the Prussian army. So tender were the relations between the physician and his august master that any proposal to the latter, involving any change in his residence or mode of life, was invariably met with the stereotyped reply, "Wenn es der Lauer erlaubt" (If Lauer allows it). It was under his direction that the publication of the German Medical Report of the Franco-German war was carried out; it was under his auspices that the so-called antiseptis was introduced into the army, that improvements in hospitals and in the transport of the wounded were affected.—*Berlin Cor. Med. Press and Circular.*