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Selections: Medicine.

INFANTILE PARALYSIS; THE CLINICAL HISTORY OF CASES WITH RIGID, AND THOSE WITH FLACCID, MUSCLES.*

BY WM. ADAMS, F.R.C.S.

Under the term "infantile paralysis," two very different classes of cases are included, in both of which there is partial or complete loss of voluntary control over the limbs affected.

The two classes of cases are characterized by the condition of the muscles. In the one class the muscles are rigid, and in the other they are flaccid; and these two classes of cases present many differences in their clinical history, their pathology, and the results of treatment.

Cases of the First Class, with rigid muscles, are sometimes congenital; they occur in connexion with protracted and difficult labour, the children being born asphyxiated, and often thought to be dead; livid in colour, and not crying, or breathing for some time. It is often several hours before the medical attendant thinks the child will live, and then some convulsive seizure frequently occurs.

The cerebral congestion appears to lead to subacute inflammation of the arachnoid at the base of the brain and upper part of the spinal cord; and in the more severe cases, in which the mental powers of the patient are damaged, the substance of the brain is no doubt also the seat of inflammatory changes.

Clinical History.—In the course of some months after birth, in the class of cases above referred to, with rigid muscles, various defects are observed, in proportion to the extent and severity of the mischief. In many cases, only a little stiffness in both legs is observed by the nurse, who finds she cannot separate them during the washing process as widely as in other children. In other cases there is a more general affection of the muscles of both legs, so that a tendency to contraction exists in all the joints, and the child is unable to stand.

In still more severe cases, one or both arms are affected in addition to the legs, the muscles being rigid and contracted. Strabismus also occurs, and the children articulate very imperfectly, and sometimes dribble; it is in fact a general affection of all the voluntary muscles, and in these severe cases the mental faculties are more or less interfered with and weakened, the children having an idiotic appearance.

Similar cases, but generally in a less severe form, frequently occur between the ages of six and eighteen months, during the period of dentition, and are sometimes ushered in by convulsive affections; and also at a later period of infancy, during the second dentition, or as the result of some febrile condition. In all these cases fewer muscles are involved, frequently only those of one leg and one arm, or of both legs; the intellect is but rarely affected.

In some cases neither dentition nor any febrile attack precedes the paralytic seizure, and in the absence of any cause being assigned by the parents, a fall or injury is suspected, or some accident may even have been known to occur, and by this the surgeon or physician

* Read at the Medical Society of London, November 19, 1877.

may easily fall into an error of diagnosis, unless he has some familiarity with this class of cases. This is illustrated in a remarkable degree by a case at present under my care, in which a surgeon attributed the paralysis to a fall, which was known to have occurred, and prognosticated a gradual recovery; whereas in this class of cases there is never any natural tendency either towards improvement or recovery. A physician of equal eminence attributed it to an epileptic seizure, and advised that the young gentleman should be removed from the rest of the family, and separately provided for, as he would be liable to epileptic seizures. In this particular class of cases, however, no liability to a second attack ever exists. It is unnecessary for me to make any remarks upon the great importance of such errors of diagnosis.

In reference to the surgical treatment of these cases in the later stage, when the limbs have become contracted, division of the tendons, to remedy the contractions, is often necessary, even in the most severe and apparently hopeless cases which occur at the period, or soon after birth. These cases are, however, unfavourable, in consequence of the general nature of the affection, involving, as it freqently does, both the upper and lower extremities, as well as the muscles of the trunk, so that the benefit is often very limited. Still, by the aid of tenotomy such children are often enabled to stand and walk, when they never could have done so without the operation, and their locomotive powers can subsequently be improved by shampooing and passive exercises. In such cases it is necessary that the parents should understand the exact objects of tenotomy, and the limit to the benefit to be expected.

In the less severe cases, such as occur in the later periods of infancy, when fewer muscles are involved, and contraction often limited to one or two joints, tenotomy is of the utmost value, not only in remedying any deformity, but in restoring the limbs to usefulness. An extreme degree of lameness is often removed, so that not more than a limp remains. In the upper extremity, when the hand and elbow-joint are contracted, all deformity may be removed, and the hand rendered useful for ordinary purposes, so that the patient may feed and dress himself, especially when the treatment has not been too long delayed without any attempt being made by shampooing and passive exercises, to prevent muscular wasting.

In all cases of this class, when tenotomy is performed, the after-treatment should be carefully conducted by gradual mechanical extension, so as to guard against imperfect union, as the newly-formed connective tissue, or new tendon as it really is, is apt to become elongated and attenuated from a too rapid separation of the divided extremities of the tendon, and not from any failure in the reparative power, which is always good in these cases of rigid muscles. This, however, is entirely under the control of the surgeon, who can regulate the extension, so as to procure the exact length of new tendon required in each case. If in the course of the third or fourth week the union should be feeble, he can check or reverse the extension, and retard the treatment; or he could increase the rapidity of extension if the union should appear to be strong, and the new tendon too short for the purpose required. About six weeks after the operation shampooing and passive exercises should be commenced.

Cases of the Second Class, included in the group of "infantile paralysis," are characterized essentially by a flaccid condition of the muscles paralysed. This is the typical form of infantile paralysis—the essential or spinal paralysis of children described by recent authors—the rigid class, first described, not having been generally grouped with them.

In the clinical history of these cases are two remarkable facts—1st, the suddenness of the paralytic seizure, which in its most severe form is calculated to occasion the greatest anxiety and alarm, without premonitory symptoms or previous illness; and 2nd, the tendency to spontaneous, and sometimes complete recovery. Children apparently in good health, are put to bed, and in the morning it is found that one, or perhaps both legs are paralysed; or it may be one or both arms, or it may be an arm and leg. Occasionally the paralysis is complete, involving both arms and both legs, as well as the muscles of the trunk.

In one case at the hospital the mother told me that whilst her little girl was eating an orange she saw one of the arms suddenly drop to the side, and from that moment it remained paralysed. The mother at first stated that the child was perfectly well at the time, but afterwards admitted she gave her the orange because she was feverish and thirsty. This is important; because, I think it will generally be found that some feverish condition usually precedes the paralytic seizure, and this may explain the acute congestion, if not inflammatory exudation, which takes place in the grey matter of the spinal cord.

I have seen cases in which a child has suddenly lost the use of one of its legs whilst going upstairs, or walking on the pavement; and in all such cases the paralysis is erroneously attributed to a fall.

I mention this case in illustration both of the suddenness of the seizure, and the completeness of recovery.

Pathology.—With regard to the seat and nature of the structural changes upon which this remarkable form of paralysis depends, some authors consider that it has not yet been determined whether the cases of paralysis with flaccid muscles really depend upon any central nervous lesion, either of the brain or spinal cord. By some authorities the paralysis is thought to be of peripheral rather than central origin, the term "myogenic paralysis" being applied to it.

As this form of paralysis is seldom, if ever, a fatal disease, opportunities for making post mortem examinations, in recent cases, must be extremely rare, and in those cases in which such examinations have been made at a late period, death having resulted from some other affection, when seme atrophic changes have been observed in the portions of the spinal cord corresponding to the upper and lower extremities, these have been thought to be of a secondary character, and consequent upon, rather than producing the paralysis.

Under the head of lesions of motor nerve. cells, Charcot observes: "*Infantile spinal paralysis* is, up to the present, the most perfect type of the affections which compose this category. The numerous researches made recently in France, in reference to the spinal lesions on which they depend, concur to indicate, as an essential fact, the profound alteration of a large number of motor-cells, in those regions of the cord whence the nerves emanate which supply the paralysed muscles. In the vicinty of the atrophied cells, the connective network almost always offers manifest traces of an inflammatory process. Judging from the general aspect of the phenomena, we are induced to admit, as a highly probable hypothesis, that, in infantile spinal paralysis, a super-acute irritative action suddenly seizes on a large number of nerve-cells and makes them promptly lose their motor functions. Some cells which have been but slightly attacked will recover their functions some day, and this phase corresponds to the amelioration of symptoms which always supervenes at a certain period of the disease. Others, however, have been more severely involved, and the irritation of which they were the seat is transmitted along the nerves to the paralysed muscles which, in consequence, suffer trophic lesions of a more or less serious character.* However it be, it is known that diminution, or even loss of faradaic contractility may be observed in certain muscles, barely five or six days after the abrupt invasion of the first symptoms. The emaciation of the muscular mass makes rapid progress besides, and soon becomes evident. The alterations which, on histological examination, are found in the affected muscles are these: firstly, simple atrophy of the primitive fasciculi with the transverse striæ preserved; and secondly, the marks of a more or less active proliferation of sarcolemma-nuclei on some isolated fasciculi. The accumulation of fat sometimes seen in old cases, seems to be a purely adventitious phenomenon.†

In concluding these observations on the clinical history of cases with rigid, and those with flaccid muscles, I will briefly refer to the chief points of difference between the two classes of cases; and also the points in which they are generally found to agree.

Period and Mode of Seizure.—1st. Cases of infantile paralysis with flaccid muscles never occur at, or immediately after, the period of

* Charcot et Jeffroy, loc. cit.

† Charcot et Jeffroy, loc. cit. Vulpian, loc. cit.

birth—the time when the worst cases of paralysis with rigid muscles occur. With this exception, the two classes of cases agree as to the ordinary period of seizure being from six to eighteen months—during the first dentition; but both also occur at later periods, as the result of various febrile disorders; and both also frequently result from convulsive seizures. The flaccid class, however, are sometimes ushered in by a febrile attack, accompanied by an acute pain in the limbs, at first supposed to indicate an attack of rheumatic fever. Cases of this kind occur as late as five or seven years of age, but I have never known this condition precede an attack of paralysis with rigid muscles.

Mental Faculties.—2nd. In the cases of infantile paralysis with flaccid muscles, even in its worst form, the mental faculties are never in any way affected; whilst in the cases with rigid muscles they are often seriously impaired.

Muscles involved.—3rd. Generally speaking, fewer muscles are involved in the flaccid than in the rigid class—single muscles, or groups of muscles, either in the leg or arm, are often involved in the flaccid class; but all the muscles in the limb or limbs are generally involved in the rigid class.

Temperature.—4th. In the flaccid class the temperature of the paralysed limbs is always much lowered, and in severe cases the normal temperature cannot be restored and maintained by any means; whilst in the rigid class the normal, or very nearly the normal, temperature is always maintained.

Tendency to Recovery.—5th. In the flaccid class there is always a tendency to spontaneous recovery—often perfect in slight cases and to considerable extent in the more severe. In the class of rigid muscles no tendency to improvement ever occurs.

Fatty Degeneration in Muscles.—6th. In the flaccid class, when the affection is too severe for recovery, there is always a tendency to fatty degeneration in the paralysed muscles; whilst in the class of rigid muscles no tendency to fatty degeneration ever exists.

Tenotomy and Mechanical Extension.—7th. In many cases belonging to the flaccid class, in which contractions and deformities of the limbs have resulted, tenotomy may be dispensed with when the contraction is of a moderate degree; and mechanical extension alone will be found sufficient to correct the deformity. But in the rigid class mechanical extension always fails; and tenotomy offers the only prospect of improvement. Contractions may, howevr, often be prevented, in both classes, by shampooing, and the daily use of passive exercises.

Reunion of Tendons after Division.—8th. After tenotomy, employed to remedy the persistent deformity in the class of flaccid muscles, the risk of feeble union is from defective reparative power, and not from a too wide separation of the extremities of the divided tendon, as in the class of rigid muscles in which there is no fear of defective nutrition. In both classes, however, good union will always be obtained if the surgeon regulates the extension after tenotomy with sufficient care.

Galvanism.—9th. Galvanism, especially the mild continuous current, is of the utmost value in the flaccid class, and as far as my experience goes it is of no use whatever in the rigid class; though Dr. Tibbits has recently found some good derived from galvanism of the sympathetic, in the rigid class.—*Obstetrical Journal.*

Effects of Inhumanity.—There is abundant evidence to show that not only is the flesh of over-driven and exhausted animals greatly deteriorated in quality, but that it is in many instances positively unwholesome. According to Prof. Gamgee, the flesh of over-driven animals is said to contain a poison which often produces eczema on the skin of those who handle it. If it has such an effect on the comparatively hard cuticle of the hand, what may be its action on the more sensitive mucous membrane of the human stomach that is unfortunate enough to receive it?—*London Lancet.*

Passing the Uterine Sound.—It has been said that in certain cases "the uterine cavity was directed to the left side, and that the sound would not pass." A writer in the *British Medical Journal* says that in most instances the difficulty has disappeared when he has turned the patient over on her right side. Where the cavity is directed forwards, the woman is, of course, placed on her back.

From *Le Progrès Médical.*

ACUTE PULMONARY TUBERCULOSIS IN A NEW-BORN CHILD.

M. TAPRET.

This case relates to a child who was born in M. Millard's wards at *Beaujon*, on the 20th December, 1876; during the first thirty days, in spite of an abundance of the mother's milk, she being a healthy woman of robust constitution, the child remained puny and sickly, and presented a rather obstinate purulent ophthalmia. Although the digestive functions did not appear to be affected, the face was pale, the mucous membranes colourless, the flesh flabby, and the child's weight only increased by from 12 to 18 grammes (180-270 grains) per day. It was only on the thirty-fourth day that the first symptom of the thoracic affection was manifested, this consisted in a cough which immediately assumed a whooping character with expiratory rythm, but without true spasms: at the same time the appetite was lost, and the dyspnœa gradually increased from day to day. As local phenomena the following facts were noted: Sub-dulness in the right supraspinous fossa, rude and blowing respiration throughout the whole extent of the lungs with subcrepitant râles and a few scattered sonorous râles. During the following days, without any alteration in the thoracic symptoms, the digestive difficulties became aggravated, the child fell into marasmus and died on the 9th of March, 82 days from its birth, and 49 from the commencement of the pulmonary symptoms. The autopsy confirmed the diagnosis: broncho-pneumonia of diathesic origin. Both lungs were crammed with tubercles, some grey, others already yellow. At the right apex there existed a caseous nodule of the size of a pigeon's egg: there was found besides an intense generalized congestion, especially pronounced at both bases. The bronchial ganglia were hypertrophied and caseous. In no other organs was any trace of tubercular lesion found. To sum up, the case was one of acute phthisis limited to the lungs and bronchial ganglia, with a nodule of caseous broncho-pneumonia at the right apex, the whole appearing to have been evolved in the space of 7 weeks in an infant aged 1 month. Cases of this kind are of great rarity. On the one hand the records of the *Société Anatomique* contain no analogous instances. On the other, the statistics of writers are all concordant upon this point. Rilliet and Barthez, in fact, say that in the new-born, and during the course of the first year, the tubercular diathesis is much more rare than at any other epoch of childhood. Such is also the opinion of Papavoine and of Valleix. M. Hervieux is not less positive. If we expect, he says, the very rare cases in which children are born tubercular, we may say that phthisis is scarcely ever developed before the age of 4 months. Out of 993 children on whom this physician has made an autopsy during his sojourn at the *Hospice des Enfants Assistés*, he has only met with two cases of tuberculosis in children under the age of four months. These figures acquire a special significance when we take into consideration the source from which they have been collected. To be brief, in this observation of M. Tapret, the problem of the etiology remains obscure. There can scarcely be a supposition of hereditary tubercular influence, since the parents were in excellent health, and of robust constitution. But it is important to bring forward the fact that the father had had, some years before the birth of the child, stains upon the body, and a rather obstinate sore throat. So, although no eruption was found upon the body of the child, nor was any phenomenon discovered which might be referred to pox, still it is impossible to eliminate the hypothesis of an hereditary syphilis. Moreover, it is known that many authors, and M. Bouchut in particular, have been disposed to see in tubercular phthisis of the new-born a manifestation of that diathesis.

Lastly, from what epoch did the tuberculosis date? Was it congenital, or did it, on the contrary, only commence to develop after the first month, the time at which the first thoracic symptoms became manifest? Nothing is rarer than tuberculosis at birth; nevertheless some cases of phthisis in the fœtus are known (see Obs. of Charrin; *Lyon Medical*, No. 14, 1873.) This hypothesis appears to be the more probable, especially in view of the cachectic state

in which the child was found soon after birth, although the digestive functions were regularly performed, and although the nursing took place under excellent conditions. We shall not insist here upon the symptoms which the disease presented. They were those of lobular broncho-pneumonia, with this peculiarity, however, that there were not observed those alternations of aggravation and amelioration which are commonly seen in this affection in the new-born when it is developed apart from any diathetic influence. It was this special behaviour of the disease which led us to suspect, and justly so, the tubercular origin of the thoracic lesions.

This observation, it will be seen, presents great interest, as bearing upon the etiology and course of tuberculosis in the new-born.

An Experiment on the Disinfection of Enteric Excreta.—By John Dougall, M.D., F.F.P.S.G.—Avoiding fractions, it amounted to this (and I confess the result astonished me): one ounce of enteric fæces had deoxodised not less than ten ounces of Condy's fluid; in other words, there is no security that enteric fæcal matter is effectually disinfected by Condy's fluid, unless the bulk of the fluid used be ten times as great as the bulk of the enteric fæces to be disinfected. In the same manner, I experimented with a fluid ounce of enteric urine, and here the result was, that one ounce of the urine deoxidised at least two ounces of Condy's fluid.

Now, supposing a typhoid patient passing twelve ounces of fæcal matter and twenty ounces of urine during each twenty-four hours, say for a week, which it will be conceded, are not excessive quantities, and supposing the Condy's fluid sold to the public in eight-ounce bottles at one shilling each is used, it follows that two hundred and eighty ounces of Condy's fluid are required to oxidise or disinfect the week's urine, which, at one shilling per eight ounces, amounts to £1 15s.; and that eight hundred and forty ounces are required to oxidise or disinfect the week's fæces, which, at one shilling per eight ounces, amounts to £5 5s.; in all, £7 per week, or at the rate of £364 *per annum*. Supposing a hospital with thirty enteric patients, on an average, constantly under treatment, on these data, it would take £10,920 worth of Condy's fluid to disinfect their yearly excretions.

Surgery.

ON INTERNAL URETHROTOMY.*

BY W. F. TEEVAN, B.A., F.R.C.S.

Within the past few years, the operation of internal urethrotomy has occupied much attention in this country; the principles of this procedure have been more clearly established and better carried out, great improvements have been effected in the instruments used, and I think it may be safely predicted that internal urethrotomy will, in the future, attain that position to which it is justly entitled.

I would firstly remark that I consider most urethral strictures are best treated by gradual dilatation, carried out by means of soft instruments; that an operation is seldom called for, and ought, as a rule, to be only resorted to after milder matters have failed. I would also observe that, pathologically, there is no evidence to prove that a stricture can be cured; but practically all strictures are curable, provided an instrument is occasionally passed at regular intervals for life.

Now, if an operation be indicated, what are the requirements it must fulfil? what, in fact, is demanded of it to prove successful? I do not think the answer can be found in any English work; we must ask French or American surgeons. The former would reply that the insertion of the "*pièce d'allongement*" is required; whilst the latter would say that a "cicatricial splice" is wanted. The above expressions convey, in a very clear and concise manner, what is indicated. We have to enlarge the contracted urethra by letting into it a splice of new tissue, which is of a necessity cicatricial. We know that cicatrices are endowed with varying powers of contraction; those, for instance, which result from the clean cut of a surgeon's knife shrink but little, whereas those following lacerations contract greatly. Hence, therefore, a cicatrix made by a clean incision possesses the minimum amount of contraction, whilst that following a laceration has the maximum degree; and, inasmuch as we want a cicatrix which will contract as little as possible,

* Read in the Section of Surgery at the Annual Meeting of the British Medical Association in Manchester, August, 1877.

we must choose a cutting operation, and not a tearing one, like the so-called "immediate dilatation."

Let us not forget these two following important surgical facts, which we constantly see, and which vividly show the relative results of cutting and laceration. When a surgeon incises the healthy urethra of a man, in the operation of lithotomy, no stricture follows when the wound is healed; but if the same man had been kicked in the perineum and his urethra torn, a stricture of the worst description would have ensued. Hence our choice is limited to cutting operations. Now, there are three forms of urethrotomy—external, subcutaneous, and internal. The external I regard as a severe procedure, which ought to be very rarely required; the subcutaneous is only adapted for cases where there is but a single stricture; whilst internal division can deal with any number of strictures; and, as it is a procedure which is attended with but little risk to life, it must be regarded as our stock operation for stricture. In what cases would I operate? If the stricture be non-dilatable, or, if dilatable, it will contract again as fast as it is stretched; or if there were numerous fistulæ combined with a tough stricture; or if the process of gradual dilatation were attended with great pain or constitutional disturbance; or, lastly, if continuous dilatation had failed. It may also be premised that penile strictures and those of traumatic origin are not usually amenable to dilatation, and require to be cut. Having determined on internal urethrotomy, shall we divide the stricture from before backwads, or from behind forwards? The answer to this question has divided surgeons into opposite camps, and acrimonious disscussions have taken place. As both parties have obtained good results, they have each attributed them to the particular method they have employed. I would venture to say that, in the hands of a skilful operator, equally good results will follow either method, but that the division from behind forwards requires a great deal more skill and care than the other, in order to determine the length of the incision, for it is not always so easy to judge where it shall end. The cutting operations may be of two kinds. Firstly, scarification. In this operation, a number of notches or small cuts are made into the stricture, but not through it, for they are not extensive enough for that. The instrument which makes the cuts is called a scarificator, and usually has two, three, or even four small blades. Secondly, internal urethrotomy, in which the stricture is completely divided at one cut by an instrument named an urethrotome, which generally has but one blade. There is a very great difference in the results of the two operations. The scarificator merely notches the stricture sufficiently to allow itself to pass through, whereas the blade of the urethrotome cuts the stricture in two, and permits of the passage of a vastly larger instrument than itself, for the simple reason that, the stricture having been completely divided, there is no longer any resistance. At one time, scarification was much employed in France; but it has, I think, been almost completely abandoned, as the results obtained by it were of a very fleeting character. It has been almost unanimously and emphatically laid down by French and American surgeons that, to obtain a good result, a stricture must either be torn through or cut through; and, as the former operation does not fulfil the requirements I have alluded to, it only remains for us to cut completely through the contraction with the urethrotome.

An enormous number of urethrotomes have been invented, and many of them have, I think, earned the late Professor Syme's condemnation, that they were "terrible engines of war." Until a few years ago, Civiale's urethrotome was, perhaps, more used than any other for dividing from behind forwards, and Maisonneuve's for cutting from before backwards: the latter instrument has been considerably improved. A good urethrotome ought to fulfil the following indications. 1. It should, when introduced, declare with certainty whether it be in the bladder or not. No urethrotome ought to be used which does not do this, for much discredit has been unjustly brought on internal urethrotomy by surgeons employing instruments which did not prove where they had gone to. Hence, false passages, and even the rectum, have been divided instead of the stricture. 2. The knife should not wound the healthy urethra. 3. The

staff of the urethrotome should be very slender, so that it can be passed through very tight, narrow, non-dilatable strictures. 4. The instrument should not only tell where the incision is to begin, but where it is to end.

Now I believe that the urethrotome, as modified and improved by Sédillot, Gouley, and myself, fulfils all the above requirements. In Maisonneuve's instrument, the groove in the staff extended through its entire length, so that the knife went into the bladder, which was unnecessary; and, as the slit was usually blocked up by blood or mucus, and hence the withdrawal of the urine, which formed no part of the operation, could not be effected. The groove in my staff is filled with a closely fitting stylet, so that, when the wire is taken out, urine will flow if the instrument be really in the bladder. Maisonneuve thought he had protected the healthy urethra from possible injury when he put a metal knob or button on the apex of his triangular blade. *Post mortem* examinations made in Paris and New York demonstrated that with his knife the healthy urethra might be cut in numerous places undesignedly. In one instance, the mucous membrane of the canal was cut in its entire longitudinal axis. Then, again, this knob on the blade pushed away some of the outlying fibres of the stricture, and so prevented their division. I have removed the button on the blade, and protected the urethra from injury by encasing the knife in a double sheath. The peculiarity of my double sheath is, that it runs outside the staff in telescopic fashion, and not inside it, as in the urethrotomes of Sédillot and Gouley. By this modification, the calibre of the staff is not increased in bulk, whereas it is greatly strengthened by the stem attached to the sheath embracing it. The sheath also represents the surgeon's finger in the urethra; for it feels for the obstruction, tells him where it begins; and, when he thinks he has divided the stricture, it assures him of the fact or otherwise. Lastly, it makes the parts tense for us when we stretch the penis forcibly upwards towards the handle of the urethrotome. I have had the end of the staff of the urethrotome tunnelled like Dr. Gouley's, so that the instrument can either be slipped over a fine filiform bougie introduced into the bladder, or it can be screwed on to the "bougie conductrice," and made to follow it into the bladder. The groove in my staff stops two inches from the end; so that, when the urethrotome is in the bladder, the curved non-grooved extremity is in the prostate and bladder. Inasmuch as there is never any stricture in the prostate, there is no object in carrying the groove to the end of the staff, as it is in the urethrotomes of Sédillot, Gouley and Maisonneuve. The conducting bougie is of great value; for in some cases it is impossible to introduce the urethrotome, not because the stricture is so tight, but because the passage is so tortuous. If, however, the bougie be first passed, and the staff of the urethrotome be screwed on to it, it will follow the former into the bladder. This procedure must be conducted very slowly, otherwise the bougie may be doubled up if the urethrotome be pushed too quickly after it. When the instrument is apparently in the bladder, I withdraw the stylet to verify its position. If urine flow, I operate; if it do not, I withdraw the urethrotome and try again another day. Supposing, however, that the urine escapes, I stand on the right of the patient, and take the knife enclosed in its double sheath, and, protruding the former a little, I insert it into the groove of the staff, and immediately slip the double sheath *over* and *outside* the staff. I then withdraw the knife within the sheath, and, clutching hold of the penis just behind the gland, I draw it forcibly towards the handle of the urethrotome, which is held by an assistant standing opposite me; and with the right hand push the stem of the sheathed knife slowly down the urethra till it arrives at the obstruction, against which I keep it steadily pressed. By these two manœuvres, I have ensured that the stricture is made perfectly tense, so that it can be cleanly and completely divided. I now protrude the knife for half an inch, knowing that that is the minimum cut required to divide even a ring-stricture no thicker than a thread. The knife is then withdrawn into its sheath, which is pushed forwards to see if the stricture be completely divided or not. If it be not, the process is repeated, each cut being half an inch long, till everything is cut. I generally divide the strictured urethra in the roof, as I think that is the

best situation, for the bulb is thereby avoided. If the surgeon prefer, however, to cut the floor of the canal, all he has to do, when he has passed the staff of the urethrotome, is to reverse the instrument, so that its point is turned behind the prostate, as in lithotrity. The urethrotome can be made with a lateral or inferior blade, if desired. As soon as I have ascertained that the canal is perfectly free from one end to the other, I withdraw the instrument and introduce a No. 25 silver catheter, for the purpose of demonstrating that the urethra has been restored to its normal calibre and to completely empty the patient's bladder. By ensuring that the bladder is empty, the patient can go for some four or six hours without wanting to make water, by which time the wound will be covered with a firm clot, and the pain in micturition be considerably diminished.

I do not leave any catheter in the bladder after the operation, and I allow the patient to pass his urine naturally. I believe I was the the first surgeon in this country to dispense with the use of the catheter after the operation. If there be one practice more persistently insisted on than another in English surgical works, it is that of the necessity of the use of the catheter after urethrotomy, the instrument to be either left in the bladder or else employed to draw off the patient's urine; and the writers point out the disastrous consequences which will take place, in the shape of abscess, fistula, or infiltration of urine, if the practice be not observed. To Dr. Gouley of New York belongs the credit of having shown the utter groundlessness of the surgeon's fears.

After the operation, I am in no hurry to commence the passing of instruments, usually waiting till the fourth day, and not introducing them oftener than twice a week. At the end of ten days, I begin to teach the patient how to pass a catheter for himself, and order him to do so every Saturday night till further orders. By passing a large No. 25 bougie or catheter several times after the operation, the insertion of a good "cicatricial splice" is guaranteed.

Now as to results. I have operated in all on thirty-three cases, all of them of the worst description, and for that reason relegated to the operation, without a single death. In one instance, the urethra was so indurated in its entire length that I left in a catheter after the operation, to set up urethritis, and so lessen the thickening. The inflammation was, however, more than I desired; and abscess, followed by fistula, ensued. The case ultimately got quite well. In one case only had I troublesome bleeding. It proceeded from the meatus, which I had divided, and was a hint to me for the future not to cut the meatus at the same time as the stricture, but several days before. As a rule, not more than a dessertspoonful of blood escapes either at or after the operation. Secondary hæmorrhage I have never seen. Rigors occurred in about two-thirds of my cases. I look upon them as entirely nervous and of no importance. It is stated in books that rigors are due to the passage of the urine over the wound. This, however, cannot be the correct explanation; for, unless pyæmic, they are never seen after lithotomy or external urethrotomy. I look upon rigors after internal urethrotomy as caused by the sudden *stretching* of the nerves in the wound through the distension of the canal by the urine. In three of my earlier cases, I had to repeat the operation, as my incisions had not been sufficiently free. I am sure that every one who performs the operation will be pleased with the soft supple cicatrix which follows it, so different from the rough, tough, irregular cicatrix which forms the so called "immediate treatment," which is neither more nor less than absolute laceration, not always of the tough stricture, but sometimes of the unoffending healthy urethra, where, as elsewhere, "the weaker goes to the wall."

Now for statistics. I think they will be found to be eminently satisfactory, and will carry conviction. They are the largest, I believe, which have ever been placed before the profession, and show what internal urethrotomy can accomplish. No other operation for stricture with which I am acquainted can produce such favourable results. I consider that no operation can be performed on the urethra without a certain amount of risk; but how slight that risk is you will immediately see. I find by examination that the operation has been performed by six surgeons in London, Paris,

Mobile, and New York, one thousand and ninety-five times, with but ten deaths; and there would probably have been two deaths less had it not been for the crowded state of the wards in the Necker Hospital during the Commune.

In conclusion, gentlemen, let me say that the experience of a solitary surgeon may be misleading, but that the conclusions which must be arrived at from the overwhelming mass of figures which I have placed before you loudly proclaim that the operation of internal urethrotomy claims your consideration and demands your support.—*British Medical Journal.*

SUBCUTANEOUS EXTRA-ARTICULAR OSTEOTOMY FOR GENU VALGUM.

The operation to which this name has been given was performed for the first time on Friday last, May 17th, at the East London Hospital for Children, by Mr. Reeves, in the presence of several foreign surgeons. Its object, which was thoroughly obtained, is to improve on the method of operating on cases of knock-knee devised and executed by Dr. A. Ogston of Aberdeen; and our object in calling attention to it at this early stage is to induce surgeons to give it that trial and preference which a less severe and equally efficient operation must claim. We give the substance of Mr. Reeves's observations before the operation. In Dr. Ogston's operation, the knee-joint is entered by the tenotome or scalpel, a fine saw is introduced along the knife-track, and the internal condyle is sawn off. This proceeding has now been done about thirty times *antiseptically;* and the results have been, on the whole, very encouraging; yet we have heard of a few cases in which synovitis, followed by severe constitutional disturbance and ending in ankylosis, has occurred. It was to avoid, if possible, these unnecessary complications, that Mr. Reeves thought of the extra-articular method. A scalpel, previously dipped in carbolised oil, was introduced obliquely just above the inner tuberosity, and the soft parts and periosteum were divided; by the side of the knife, a chisel, also dipped in carbolised oil, was introduced, and the internal condyle separated *as far as the cartilage only;* and, the chisel being then used as a lever, the condyle was prised inwards till it was felt to move moderately freely. The limb was then forcibly straightened by Mr. Cæsar and Mr. Parker; a pad of lint dipped in carbolised oil was put over the small aperture; and a long splint, interrupted at the knee, and with a cross-piece at the foot to keep it steady, was adjusted to the straightened limb. As the condyle differs in shape and depth, it is of course necessary to be accurate in chiselling; and, to guide him, Mr. Reeves previously marked out with ink on the skin not only the contour of the condyle, but also the direction of the chisel-cut. The greatest depth of the condyle was marked on the chisel, allowance being made for the thickness of the cartilage and of the soft parts; the chisel was then driven home till the mark on it nearly reached the skin. The condyle having beeen first penetrated in its greatest depth, the chisel was partially withdrawn; its direction was altered, first forwards, then backwards; and, with a few oblique touches, due allowance being made for the varying depths, the condyle was felt to be sufficiently loose, when the instrument was withdrawn and the knee straightened. The joint was not entered; no synovia escaped; and the feeling of resistance to the chisel was not at any time overcome. Had this been the case, the joint must have been opened. It might, *à priori*, be thought that the uncut cartilage, with perhaps some slight uncut bony bridges, would either interfere with the reduction of the deformity or would only yield after being broken. The result so far, in this case, does not confirm these objections, if they be serious objections. Experiment and experience must determine the matter in the case of adults; but in children, in whom the condyles are not completely ossified, and what bone there is in the young cancellous tissue is soft and pliable, these objections do not hold. But, even if the cartilage were to fracture, or even if the joint were entered—say purposely—with the chisel, the proceeding would not be so severe as if done with a saw. Another modification in this operation is noteworthy. It has been said that the internal condyle was separated. It is more correct to say that the greater part of it was almost

separated; that is to say, that the chisel-cut did not extend to the intercondylar groove, but only to its inner side. The aim of this is to preserve some part of the inner condyle, which may grow, and thus obviate any possible future *genu extrorsum* which may be the consequence of the increased growth of the external condyle. All these operations, which may be termed rapid as contradistinguished from the older methods of splinting and tenotomy, when necessary, are too young to admit of any dogmatic statements about them; but in the meantime we should adopt that method which is effectual and least risky. Delore's, Ogston's, Max Schede's, Annandale's, and Macewen's, and the one just described, have all the same object with regard to this deformity; but the methods of executing it differ. One, by *brisement forcé*, separates the upper tibial epiphysis; another removes a wedge from the upper part of the tibia; another attacks the femur; and yet another removes a wedge from the internal condyle. Ogston's method and this agree in principle, but differ in execution and severity. The advantages of the extra-articular method seem to be, greater rapidity of execution, rendering it more strictly subcutaneous; much less damage to the bone, cartilage, and soft parts; no interference with the knee-joint; and, as the condyle is not completely separated, there is less likelihood of subsequent non-union and necrosis. Again, the resulting joint-surface will be more regular; and, by leaving a part of the condyle, the probability of a genu extrorsum is much diminished. Then there should be no difficulty with the case. As soon as the condyle has become firmly attached in its new position, the stiffness will only be due to having kept the knee fixed for some weeks—say five—and not to ankylosis, which has to be overcome by frequent passive motions under anæsthetics. In the present case, it was endeavoured to make the section on the distal side of the line of junction of the epiphysal cartilage. This is considered important with reference to the future growth of the inner side of the femur. The operation was not antiseptic in the Listerian sense; it was carried out in the same way as nineteen other osteotomies (five femora, ten tibiæ, and four fibulæ) by the same operator; and, as in these cases everything progressed as could be wished, no additional precaution was deemed necessary. Even this operation of minimum severity Mr. Reeves would at present confine to those cases of overgrowth of the internal condyle in which the older methods are not applicable or have failed; but, as soon as experience shall have taught that there is nothing to counterbalance its many advantages, he would not hesitate to recommend and adopt it as the first means in the more severe cases of this deformity. Expensive and somewhat cumbrous apparatus becomes necessary after tenotomy, etc.; and they will not be needed in the case of surgically displaced condyle, the cause of the deformity—*i. e.*, the overgrown condyle—being put in proper position. It should, in conclusion, be stated that there has been no rise in pulse or temperature, and only such local pain as might naturally be expected. —*British Medical Journal.*

Improved Method of Taxis in Hernia.—Dr. Hildebrand describes, in the *Allg. Med. Central Zeitung*, April 20th, a method of taxis, which, he says, is nearly always successful. When the hernia is on the right side, the surgeon places himself on the patient's left, takes the hernial sack in his left hand and moves it in all directions, at the same time drawing it from the body, while his right hand impresses a series of movements on the abdominal wall, pressing it from the right toward the left side of the patient; then, by grasping with the right hand deep in the hernial cavity, the impacted link of intestine can generally be caught and withdrawn. The action is reversed when the hernia is on the right side. Of course, a proper position and the use of anæsthetics are understood.

New Mode of Treating Varicocele.—I find the following simple procedure an efficient method of treating varicocele. Pass a long and strong hare-lip pin between the veins and the scrotal walls, bringing the point of the pin close beneath, but not through, the scrotum; then make the point retrace its course, but passing now behind the veins, until it emerges near the puncture through which it entered. In a word, by employing that form of acupressure known in the Aberdeen School as the method of retroclusion, a varicocele may be effectually compressed and the veins obliterated.—S. Messenger Bradley, Manchester.—*Brit. Med. Jour.*

Midwifery.

THE TREATMENT OF SORE NIPPLES.

The measures recommended from ancient times to the present for the treatment of sore nipples are past enumeration, and yet there is nothing which may be employed with absolute certainty. On this account the author takes occasion to report the following cases in which he has used carbolic acid "with so direct and striking results" that he deems it his duty to recommend this agent in the affection under consideration.

1. Frau S., confined for the first time in August, 1876. On the third day she presented upon the right nipple several fissures and two vesicles which were very painful upon nursing the child. The fissures were cauterized and vesicles opened with the nitrate of silver pencil. After lead-water applications were made and less often applications of the child to the affected side was enjoined. In spite of this careful, thorough treatment two painful weeks passed away before the nipple was completely healed.

Early in October, 1877, the woman was delivered the second time. She must have suspended nursing after about five months on account of the new conception. This time she showed on the third day after birth, upon both nipples several vesicles as well as several fissures. The vesicles were emptied and all sore places were again touched with the nitrate of silver pencil. The pain upon the application of the child was diminished so little that in the evening an attempt was made to protect the breast with a rubber nipple shield, but this was rejected. The next day the fissures were enlarged, very red and, like the borders of the vesicles, bleeding easily. An experiment with carbolic acid was now determind upon. Applications of a 5 per cent. solution were employed, which were renewed every 2 or 3 hours. Of course before every nursing the breast was carefully cleansed in order to prevent any taking up of the acid by the child.

The solution was tepid, a clean linen cloth was moistened with it and laid upon the nipple. Directly after the first application the pain abated and it did not increase when the child was put to the previously carefully cleansed part. The next day the fissures were smaller and paler, the eschar gone and after two days' longer use of the solution healing was complete. No more pain was felt in the breast from nursing.

2. Several weeks after the above a lying-in woman presented, both of whose nipples were sore. The nipples were well projected and of normal size. Upon the surface of the right there were two fissures and upon the left one fissure, about four mm. long and 2 mm. deep, the left arising from a burst vesicle with a superficial eschar upon the skin of the nipples. This was treated in the same manner, but with only a two per cent. solution renewed every two hours. After probably two hours the child was again applied, the left nipple manifested far less sensibility but the right was yet painful. The application of the solution was continued. Although it was not made regularly the next night, the sucking and grasping of the child of the left nipple was entirely painless. The right, on the contrary, had been much more painful since the day before. Upon inspection the fissures were found decreased in size and paler. Notwithstanding the irregular employment of the solution the pain was eased in the right nipple during the course of the day and the woman was able to nurse without the least annoyance. Eight days afterward there was experienced a new pain of violent character in the right nipple which was later ascertained to proceed from a small recently formed fissure. One application of a five per cent. solution of carbolic acid was made. At first it excited somewhat severe smarting, but it sufficed to render completely painless the next nursing of the child and in two days the fissure had disappeared.

"Earlier experience has shown me," says the author, "that fissures, excoriations and small ulcers of the nipples treated with other agents, as nitrate of silver, tannin, acetate of lead, etc., are not much benefitted. In the mean time the result from the carbolic acid was scarcely anticipated so quickly, especially since the affection was double-sided, absolutely excluding sparing of the nipples. There is a striking difference here in the result of treatment of the two cases. The first treated with nitrate of

silver and lead-water applications, notwithstanding only one nipple was affected and rest was permitted, was two weeks under treatment. The second treated with carbolic acid, in spite of both nipples being involved and constant nursing, was relieved in two days. The second observation also shows that the stronger (five per cent.) solution is to be given the preference over the weaker (two per cent.).

"Furthermore, the probability is that it would not have been possible to continue the nursing during this time. The shortness of treatment is most favorable to the acid and its constant application is not so painful as one touching with the nitrate of silver pencil. Finally, the nitrate of silver does not always penetrate into the smallest fissures of the nipple, while the acid solution naturally passes into the deeper tissues, as its fluid state evidences. According to the statements of the second woman, after each application of the acid she not only experienced a considerable smarting in the nipple, but also in the neighbourhood. In my opinion the great pre-eminence of the carbolic acid over all hitherto recommended solid and fluid medicaments, consists in its not only reaching and cauterizing superficial sore places, the naked mouths of the finest lymph vessels, but, besides, completely penetrating them. By the regular employment of a concentrated solution (five per cent.) it is possible to destroy multiplying parasitic germs or infectious organic matter of whatever kind and subdue almost at the commencement all inflammations of the breast glands."—*Clinic.*

PHYMOSIS.—My object in bringing this case before you this morning, was to draw your attention to the occasional development of a sort of unhealthy deposit of lymph, after operations for phymosis, in children of a scrofulous or otherwise impaired constitution. I have had this happen once or twice in my own practice, and I know at the time it worried me greatly. I have seen the same abnormal glueing together of the preputial tissues occur after operations at the hands of other surgeons, when the greatest care had been practised at the time of operation. Why it should so happen I cannot tell, but it does sometimes take place, and you ought to know how to deal with it. Do this; split up the prepuce, and if you have performed at the first operation a satisfactory circumcision, you will usually have but little further trouble.

DIFFICULTY IN DIAGNOSIS DUE TO ROTATION OF OVARIAN TUMOURS.

BY J. KNOWSLEY THORNTON,

Surgeon to the Samaritan Free Hospital for Women and Children

On December 18th, 1876, E. A. B., aged twenty-four, single, came under my care at the Samaritan Hospital, during the absence of Mr. Spencer Wells :—

Mr. Stevens, of Hoddesdom, Herts, had first been called to see her in consequence of a sudden attack of pain in the right side just before her menstrual period. The first attack had occurred six months before she came under my care, and each returning period had brought a recurrence of the pain, which was sometimes so severe as to make her roll on the floor in agony.

When she came under my observation she was a healthy-looking girl, with full colour and no emaciation. She measured 30½ inches round the abdomen at the umbilical level, 4½ inches from the ensiform cartilage to the umbilicus, and 7 inches from the umbilicus to the pubes. There was a small moveable tumour occupying the right side of the abdomen and reaching to the umbilicus, and slightly across to the left of the linea alba. Its borders were overlapped by intestine all round. It could be felt to the right and in front of the uterus per vaginam, and appeared closely connected with it. The os and cervix were natural; the uterine cavity measured only 3½ inches. I could not feel certain as to fluctuation in the tumour, but I thought it did fluctuate. There was also a slight wave of ascitic fluid.

I kept her under observation during a period, but did not gain any fresh light as to the nature of the case. The pain was much less severe than at the former periods. Ascitic fluid now began to accumulate rapidly, and the patient, who had been in very good health, lost her appetite, got a yellow look, and complained of general malaise. I therefore determined to make an exploratory incision, and remove the tumour if it were found possible to do so. The period ceased on January 20th, and on January 24th, assisted by my colleagues, Dr. Bantock, and Dr. Champneys (the latter administering bichloride

of methylene), I made the incision usual in ovariotomy to four inches. Six or seven pints of brownish ascitic fluid escaped on opening the peritoneum, and the tumour presented at the opening. It was of a dark liver colour, and had a firm sodden feeling, but evidently contained fluid. Some filmy adhesions to the intestines on the right side were ligatured with fine silk and divided. Firm adhesions to the appendix vermiformis, requiring three ligatures, were then dealt with. The tumour was tapped, and about a pint of thick tar-like fluid evacuated. The substance of the cyst was very friable and broke away from the claws of the trocar. It was seized with Nelaton's forceps, the opening enlarged with scissors, and some inner cysts, with similar contents, broken up, and the tumour withdrawn. I then found a short, hard, and twisted pedicle on the right side of the uterus; it was untwisted, transfixed, and tied in two halves, and the tumour cut away. No trace of the vessels could be seen in the pedicle, and I believe it might have been cut without hæmorrhage. The left ovary was found enlarged and forming a grape-like bunch of small pediculated cysts. Its pedicle was secured in the same manner as the other, and it was removed. All the ligatures were of fine silk, and they were all cut off close to the knots and returned into the peritoneum, which was then thoroughly sponged out and the wound closed by silk sutures. The tumour weighed 11b. 12oz., and there were seven pints of the mixed ascitic and cystic fluids. It was an ordinary multilocular one, and some of the small cysts which had not been broken contained a pure dark fluid blood. A large patch of the main cyst wall was very thin, apparently from ulcertion of a portion of the lining membrane, and so soft that the finger was easily pushed through it.

The second case is similar but more perfect as an example of the subject, because I saw her before the twisting of the pedicle occurred in the first instance, or, at any rate, before any marked symptoms of the rotation were apparent.

M. M., aged thirty, single, came to see me in August, 1877, from Woolland, in Dorsetshire. She had been under the care of Mr. Trazewell, of Sturminster Newton, who had diagnosed an ovarian tumour.

I found a small ovarian cyst with very free fluctuation, and apparently free from any adhesions. By pelvic examination I could only just detect the tumour. She was a healthy-looking young woman with a full habit, and apparently not suffering in any way from the tumour, except that it prevented her stooping, and doing various things which her occupation of cook rendered necessary. The Samaritan Hospital was just closing for its autumn cleaning, and I was leaving town; I therefore advised her to come up again in October and have the tumour removed. On her return in October she was thinner, and not looking so well, and her skin had a yellowish hue.

History.—In August, 1876, first noticed a lump in the right side, about the size of a hen's egg; it gradually enlarged, and in May, 1877, she began to suffer pain in the bowels, was feverish, and was in bed for two weeks. From this time the tumour gave her more trouble; she often had pains in the abdomen and back, and suffered more than formerly at the menstrual periods. On her return home in August all her pains greatly increased, and from that time till she returned in October she suffered from constant pain in the back, with bearing down of the uterus and stooping became impossible from the pain it caused in the abdomen.

On proceeding to examine her I was at once struck with the fact that though she had lost flesh and was, consequently, generally smaller, the tumour itself had evidently decreased in size. Proceeding to feel it I found it firmer, and no longer so distinctly fluctuant; indeed I was in doubt whether there was any fluctuation, it had to me much more the characters of a soft fibroid. Pelvic examination revealed no change, except that the tumour seemed much more more closely closely connected with the uterus than I had thought. I was now inclined to regard it as a pediculated outgrowth from the uterus, but with my former impression fresh and strong in my mind was much puzzled. I asked Mr. Wells to see her with me, and he agreed that it was a doubtful case, and advised keeping her under observation. Others among my colleagues., who kindly saw her with me, declined to give a positive opinion; but the

general leaning was evidently in favour of its being uterine—this view being encouraged by the general appearance of the patient, and the strong pigmentation of the linea alba.

On December 13th Mr. Meredith gave bichloride of methylene, and assisted by my colleagues, Dr. Bantock and Mr. Doran, I made a small incision in the usual situation. The hæmorrhage from the parietes was freer than I have ever seen it, and I was some time before I could open the peritoneum; when I did so I at once saw the familiar white, glistening surface of an ovarian tumour, and enlarged my incision to five inches; when more fully exposed the surface of the cyst was seen to have a mottled look, and, greatly to my surprise, was adherent in all directions to the parietes by firm films and bands which were vascular; similar adhesions connected with the omentum and intestines—many of these required ligature. The tumour felt so solid that I attempted to remove it whole, but finding this impossible without unduly lengthening the incision, I tapped it and let out a quantity of thick, dark, grumous material; drawing out the empty cyst I found a firm, fibrous twisted pedicle close to the right side of the uterus. I transfixed and ligatured it in two halves with medium silk; when I cut away the cyst the vessels were seen to be plugged with partially decolourized clot. The other ovary was plump and healthy, the uterus normal, but pulled somewhat over to the right, and somewhat out of shape. The very free hæmorrhage in cutting through the parietes was explained by the fact that the chief blood supply of the tumour was received through its parietal adhesions. It is very remarkable how very freely the tumour could be moved about in the abdomen when we consider the extent of the adhesions.

The difficulty in each case was to decide whether one had to deal with an ovarian tumour or some other. In both cases the uterine outgrowth seemed to me most probable as an alternative, extra-uterine fœtation being also suggested in the first case. In both cases the pain at the periods referred chiefly to the side on which the tumour was situated and to the back, was a marked symptom, though so much more severe in the first, and this also pointed to uterine rather than ovarian disease.

In both, the twisting of the pedicle shortened the connexion between the tumour and uterus, and increased the likeness to a pediculated outgrowth.

In both, the stoppage of blood supply, though in different degree, led to decrease in size, with corresponding solidification of the tumours.

In both, extreme congestion, with large extravasation of blood into the tumours, seems to have preceded the complete obstruction to the circulation. The reason for this, as I have pointed out in the paper in the Pathological Transactions already referred to, is to be found in the thin walls and large size of the veins with the thick muscular coats of the arteries in ovarian tumours. Doubtless the increase of pain at the periods was due to the increased vascularity with proportionate congestion. In both a certain jaundiced appearance was observed, due, as I believe, to the reabsorption of the colouring matter of the blood, I have seen it more than once in patients with large hæmatoceles which have been left to nature.

In the first case the whole tumour was practically dead and non-vascular, only small portions of its peritoneal coat affords us a beautiful example of the harmless nature of dead tissue, provided it is guarded from all sources of external contamination—an example accentuated for those who will carefully study the subject by a comparison with the course of events in the case I have already alluded to, where strangulation of the tumour took place after the causes of putrefaction had been introduced into the tumour from without.—*Obstetrical Journal.*

EARLY SIGN OF PHTHISIS: FALLING OF THE CLAVICLES.—Dr. Haenish points out, in the diagnosis of commencing tuberculosis, a sign already mentioned by Aufrecht. The acromial extremity of the clavicle should be higher than the sternal extremity If it be lower, the significance is that the respiratory field is restricted on that side. If the two ends of the clavicle be found on the same plane we should suspect tuberculosis, especially if there be already other suggestive symptoms.—*Jl. de Med. et de Chir. Prat.*

ON THE CURE OF DYSMENORRHŒA, STERILITY, AND CERTAIN AFFECTIONS OF THE UTERUS, BY A NEW FORM OF ELASTIC INTRA-UTERINE STEM.

BY ROBERT GREENHALGH, M.D.

* * * * * * *

Two years ago, I succeeded in designing a stem with manifest advantages over every other pattern. The stem consists of pure India-rubber tubing, No. 13 catheter gauge, easily admitting the introduction of a large Simpson's sound, two inches and one-eighth in length, tapering at its upper or uterine end, and armed with an oblong shield measuring one inch and three-quarters from side to side and one inch and a quarter from back to front. In this shield are ten perforations to facilitate cleanliness. Three-sixteenths of an inch from its upper extremity is a bulb two inches in circumference, with four diamond-shaped slits, which collapse when stretched on a dilator to facilitate introduction. When the stem is inserted and its retention is secured, and the dilator removed, this bulb at once expands in the body of the womb, while permitting a ready escape of the uterine secretion. The whole being cast in one piece, there is no chance of the separation of any part of it.

There are two points in connection with the use of the India-rubber stem to which I am particularly anxious to direct attention, in addition to the advantages already referred to. Firstly, although soft, elastic, and easily bent while out of the uterus, it becomes sufficiently firm when pressed equally on all sides by the canal of the cervix to gradually overcome all flexions, except in cases where the uterus is bound down to the surrounding parts. Secondly, its action is not purely mechanical. It has been observed by myself and others that, in many cases where the stem has been worn for some time, the enlarged and firm uterus has become greatly reduced in size, and so soft as closely to resemble that organ in the early stage of subinvolution: effects probably due to the freer exit of the secretions and the mucous discharge, which usually persists during the retention of the stem.

Having described the form of stem, I shall now briefly allude to the cases in which I have found it most useful; premising, however, that mechanical treatment should never be undertaken till the removal of all indications of active disease, and the uterus is reduced to a minimum of sensitiveness by the use of rest, local depletion, hot vaginal injections, soothing suppositories, and other measures; and, further, until the sound has been passed once or oftener to ascertain how far the uterus is tolerant of local interference. Moreover, at the commencement of treatment, I usually enjoin one or more days' rest in bed. After this preliminary treatment, I first introduce a small silver stem; and in two or three days, if loose, I substitute one of larger size, when the canal is usually sufficiently dilated to admit the introduction of the India-rubber stem. By this gradual dilatation, which occupies usually about a week, the largest stem can be more easily introduced, and far less irritation is likely to follow than when the introduction is more speedily effected—an operation frequently not easy and occasionally impossible.

Should the stem have a tendency to slip out, which is sometimes the case, it can be easily retained *in situ* by pressing upon the shield a plug of cotton-wool, saturated with glycerine, tied crosswise with fine twine to facilitate removal.

I may here remark that early experience taught me never to use sponge or sea-tangle tents, nor dilators, with a view to more rapid dilatation, by which considerable pain is occcasioned, and irritation, and sometimes inflammation, is set up, thereby rendering the case temporarily unfit for the stem-treatment.

The most fitting time to introduce the stem is shortly after a menstrual period, its retention being determined by the peculiarities of each individual case, the effects produced, and the end to be obtained. In my cases, the time varied from fourteen days to eleven months. The best time for removal is about a week before the next expected period. When retained for a considerable time, the discharges are apt to become offensive, notwithstanding the daily use of the vaginal douche. Still I have never known any evil result beyond this temporary annoyance to the patient.

I have now used the India-rubber stem for more than four years in a large number of private and hospital cases, and in two cases only —cases of chronic metritis with retroflexion, in which a spring vaginal pessary was worn—have I had to withdraw it on account of the onset of irritation. Both patients were highly sensitive women, and had undergone but little previous treatment. I have found these stems most useful in the following cases:

1. Dysmenorrhœa;
2. Flexions—ante- and retro-flexion of the uterus;
3. Strictures of the orifices and canal of the cervix;
4. Sterility, congenital and induced;
5. Certain cases of subinvolution;
6. Certain cases of interstitial fibroid of the uterus.

In two cases, the anteflexion was so extreme that, although the India-rubber stems were worn for many months, still they were found bent. In one, the patient was free from dysmenorrhœa at the end of many months, and may still so remain for aught I know.* As to the other, a hospital patient, from whom Dr. Godson removed the stem, I have no particulars. I have reason to believe, from a subsequent examination, that in one of these cases the uterus was bound down by adhesions to the surrounding parts. In a few cases, where there had been a tendency to a free loss during menstruation, the flow was much increased and the period prolonged, but never to the extent of inducing me to suspend treatment. In nearly all the cases, while the stem was in position, there was a more or less free secretion of mucus, in a few occasionally tinged with blood, which ceased on removal of the stem. I could have largely added to the number of cases treated during a period of nearly five years; but I have deemed it more useful and instructive to restrict myself to the narration of a few typical cases.

A friend, after having read through this paper, remarked that it would be as well to record one or more unsuccessful cases; but, as not one case of failure has at present come to my knowlededge in which the stem-treatment has been carried out, I am, happily, unable to comply with his suggestion.—*British Medical Journal.*

* I have recently heard that this lady became pregnant, went the full period, and was safely delivered of a living female child about two years ago.

Therapeutic Notes.

KOUMISS; ITS MODE OF PREPARATION AND ITS REMEDIAL VALUE.

BY WILLIAM PEPPER, M.D.,

Professor of Clinical Medicine in the University of Pennsylvania.

Despite the marked advances made of late years in our knowledge of the alimentation proper for different kinds of disease, we are constantly meeting with special conditions in which it is very difficult to find any form of food that will agree with the patient. The introduction of the exclusive milk diet, now so well established, has put into our hands a most valuable mode of treatment in a number of obstinate and intractable affections.

Not only in gastralgia and some other forms of dyspepsia, and in chronic diarrhœa, but in organic diseases of the kidneys, in certain types of cardiac disease, and in some nervous affections, does the administration of milk, according to a definite method, prove an invaluable mode of treatment. In cases of malnutrition or of wasting disease, where it is desired to give more food than can be advantageously taken in a solid form, milk has been found the best addition to the diet. It will be found, however, that in certain cases of all these groups milk is not well digested. No doubt the assurance so often given to us that milk cannot be taken is, for the most part, unfounded. But I have frequently met with cases where very careful trials convinced me that the statement was literally true; and, unfortunately, in not a few instances this has happened in the very cases where I was most desirous either of using an exclusive milk diet or of giving a considerable amount of milk to eke out the insufficient quantity of solid food that could alone be digested. In these cases I have found very great advantage in resorting to koumiss as a substitute for milk. I have also found that this new article of diet is peculiarly applicable in certain conditions where milk is not specially indicated.

Before illustrating these statements by the brief notes of a few of the many cases in which I have used koumiss with advantage, a short account of this useful food may be given. It is

essentially milk in which alcoholic fermentation has been induced, and allowed to proceed to a moderate degree. In Tartary, where it has been extensively used for centuries, mare's milk is employed; while in Russia, according to Liebig, cow's milk is chiefly used in its preparation. I am satisfied that koumiss made from cow's milk is quite as good as that made from the milk of mares or of camels. It has also been supposed that some special ferment used in Tartary was more efficient than any other, but I believe that ordinary brewers' yeast answers the purpose equally well.

As koumiss will not bear transportation to any considerable distance, it is desirable that the mode of preparing it should be generally known. I have therefore requested Mr. George I. McKelway, of Philadelphia, who has supplied me with all the koumiss my patients have used, to give the formula for its preparation. He writes as follows: "The manufacture of koumiss is a very easy and simple process. I take—

℞. Best unskimmed milk..... qt.j.
Yeast (brewers' or old bakers').. grs.c.
Cane sugar ..... grs.cc.

"Keep the mixture at a temperature of 80° Fahr. until fermentation is quite brisk, stirring it frequently, and then bottle, carefully securing the corks with strong twine or wire. After twenty-four hours it is fit for use.

"The object of the addition of the cane sugar is the certain induction of alcoholic fermentation. If the sugar be left out the result is likely to be that lactic fermentation only is set up, and the product is sour milk. The quantity of sugar used has, of course, to be judged by the richness of the milk and its consequent richness in fermentable constituents."

The koumiss thus prepared by Mr. McKelway has proved entirely satisfactory. It is a very agreeable drink, having a slightly acid taste, and containing from three to four per cent. of alcohol, one to two per cent. of lactic acid, and is highly charged with carbonic acid gas. It contains the ordinary ingredients of milk, with the exception of the lactose (sugar of milk), most of which is converted into alcohol, and lactic and carbonic acids. Koumiss is acid to litmus paper, both before and after being freed from carbonic acid. Its specific gravity is rather less than that of the milk from which it has been made (1·040 instead of 1·043). As it is important to retain its effervescing character, it should always be drawn by means of a "champagne tap." It should be used within a few days of its preparation, since after two or three days the alcohol and lactic and carbonic acids increase so as to make it less agreeable and less well adapted to most cases. It should be kept on ice, or in a very cool place, as warmth soon causes the caseine to separate into a thick, heavy curd. Koumiss may be said, then, to fairly represent the nutritive properties of good milk, while possessing, in addition, a mildly stimulating character. The carbonic acid gas with which it is highly charged acts also as a sedative to the gastric mucous membrane, and thus renders it well adapted to cases where there is much irritability of stomach.

I have used koumiss both as an exclusive diet and as an addition to an ordinary diet. In the former case the amount taken has been, at first, two or three fluid ounces every two hours; then, in the course of a couple of days, four fluid ounces every two hours; then six fluid ounces every three hours; and finally half a pint every three hours, or two quarts in the course of a day and night. This total I have rarely exceeded, though in a few instances as much as three quarts have been taken in divided doses. Usually, by the time two quarts had been taken daily for a short time, it has proved both possible and desirable to associate with it some simple solid food. When used as an addition to an ordinary diet, I have given it to the extent of one quart daily, in doses of half a pint in the intervals between meals. Formerly the high cost of this article was a serious objection to a prolonged use of it in large quantities, but now that it can be had at the rate of one dollar for three quart bottles, this objection has been largely done away with. I see no reason, however, why koumiss should not be made according to the above receipt, by any one who finds it inconvenient to obtain it from some of the recognized manufacturers, of whom there are several in Philadelphia and New York, if not elsewhere.

I must be brief in alluding to the conditions

in which I have found its use most beneficial, among which may be first mentioned, catarrhal phthisis. In this form of pulmonary disease, which, in this climate, is by far the most frequent variety of so-called consumption, the pulmonary trouble is often complicated with gastro-hepatic catarrh, either in a subacute form, or in the form of acute attacks recurring at irregular intervals. I think that all careful observers must have noticed how frequently in such cases milk disagrees, and oil cannot be taken. The difficulty of getting these patients to digest a sufficient amount of nourishing fat-making food is, indeed, one of the most serious points in their treatment. I can confidently advise the use of koumiss in this condition. The patient can usually make three light and simple meals, and in addition half a pint of koumiss can be taken early in the morning, between breakfast and dinner, between dinner and supper, and toward bedtime. A special advantage to be here noted is, that when taken at night it not only agrees well, but exerts a mild soporific influence. It is probable that the high reputation enjoyed by koumiss as a remedy in phthisis in some distant parts of the world is due to its excellent action in many cases of the class I have alluded to.

As an illustration of another condition not rarely met with in phthisical patients, I may quote the case of T. W., aged 24, who applied to me with extensive disseminated disease in the left lung, with a glazed, moist tongue, frequent vomiting, considerable diarrhœa, marked emaciation, and abundant expectoration. He lived on koumiss exclusively for two weeks, during the latter of which he also took small doses of eriodyction as an alternative expectorant. After the first day there was no more vomiting or diarrhœa. During the third week small quantities of solid food were given, in addition to the koumiss. In the fourth week skimmed milk was substituted, and now at the close of five weeks, he takes one and a half quarts of milk daily, besides a fair amount of solid food, all of which is thoroughly digested. He has gained five pounds in weight, and considerably in strength; cough and expectoration have diminished and there is slight improvement in the physical signs. Fluid extract of eriodyction has been given steadily, and for the past two weeks six grains of quinia have been taken daily.

As an exclusive diet, koumiss is adapted to all those cases where we employ milk in this way with such remarkable results, but, of course, it would have no special advantage, except in those peculiar instances where milk cannot be digested. Thus I have met with several cases of cardiac disease, with marked secondary hepatic and gastric congestion, where skimmed milk could not be digested, and where it was almost impossible to find any article of food that the patient could take, in which koumiss was used with entire success. In one such case, seen in consultation with Dr. Hollingsworth Neill, the patient, who had been suffering greatly from gastric distress, aggravated by all kinds of food, received immediate relief from the use of koumiss, which was taken with great relish for a long time.

As an illustration of its value in another kind of cases, I may refer to a patient with extreme nervous exhaustion and intense anæmia, who suffered violently from pyrosis and gastralgia. While out of bed it was impossible to secure improvement. Even when complete and prolonged rest in bed was secured, with the aid of massage, general electrization and faradization, it was equally impossible to feed her sufficiently so as to lessen the anæmia and relieve the distressing nervous symptoms. Milk was tried repeatedly, and always disagreed; its use, even in small quantities at stated intervals, caused intense distress. Iron could not be tolerated in any form; suppositories containing iron caused rectal irritation; hypodermic injections of dialysed iron (Wyeth's) caused abscesses. The internal use of the latter preparation of iron, as well as of many others, even in the smallest dose, produces suffering. In this trying condition, koumiss proved perfectly acceptable, and for a number of weeks the patient used it, first as the sole article of food, and later in addition to a very simple diet, with excellent results. Flesh was gained, strength increased, and the general nervous symptoms and the gastric distress rapidly improved.

It will immediately occur to many that kou-

miss must prove a very valuable remedy in diabetes mellitus, and so it does. I have had the opportunity of using it only in one such case, but here the immediate reduction in the amount of urine, almost to the normal, and the remarkable diminution in the proportion of sugar, showed conclusively its great importance as an exclusive article of diet in this affection. A diet of skimmed milk is often found of great service in relieving the symptoms in diabetes, but koumiss will probably be found much more desirable, since the sugar of milk is, for the most part, decomposed, while the carbonic acid gas acts as a grateful sedative to the irritable stomach. I think, moreover, that koumiss allays thirst better than milk does.

In the following case of simple polyuria, koumiss produced very marked and rapid results. E. S., a sailor, aged forty-three years, was admitted to the University Hospital, Dec. 20, 1877. He had had diarrhœa for three months, had lost a great deal of flesh, and was pale and weak. He complained greatly of thirst, and passed ten pints of urine daily, of low specific gravity, and containing neither albumen nor sugar. A diet of skimmed milk, with injections into the large intestine of weak solutions of nitrate of silver, quickly arrested the diarrhœa, but produced no effect on the polyuria. He was then allowed a mixed diet, and dialysed iron and ergot were given him for more than two weeks, in very large doses, but only a very slight decrease in the amount of urine followed, from ten to eight and a half pints, and he continued to lose colour, strength and flesh. On January 30th, all medication was stopped, and he was ordered to bed. The next day he was put on an exclusive diet of koumiss, one quart being given in the course of twenty-four hours. This was continued for one week, with the following effects: He lost three and a half pounds in weight, and passed urine on the successive days as follows: January 30th, eight and a half pints; January 31st, eight and a quarter pints; February 1st, four pints, two ounces; February 2nd, two pints; February 3rd, one pint, ten ounces; February 4th, one pint, seven ounces; February 4th, one pint, eleven ounces.

On February 6th solid food was conjoined with the koumiss, and finding that no increase in the amount of urine occurred, the latter was discontinued, and he was allowed to eat as much as he wanted of simple, nourishing food. His appetite was very good, and he ate freely, without the least inconvenience. His weight increased, according to the careful observations of my resident physician, Dr. Skillern, and of the head nurse, no less than twenty-one pounds in seven days. The extraordinary change in his appearance confirmed this statement, and I have no doubt of its entire accuracy. He soon felt perfectly well, there was not the least return of polyuria, and he was discharged to return to his calling.

I have thus briefly alluded to some of the conditions in which I have found koumiss of positive value. The results I have already obtained convince me that in suitable cases it will prove an important addition to our means of treatment.—*Med. and Surg. Reporter.*

DUBOISIA.—THE NEW MYDRIATIC.

M. Galezowski presented to the Society of Biology at the session of March 23, a new mydriatic preparation. This plant, for it is derived from a plant, comes to us from Australia, and belongs to the family of the scrophulariaciæ, according to M. Olivier, of London, who has studied it. It is called the *Duboisia myopsorida.*

According to the English ophthalmologist, Tweedy, a few drops of the solution of Duboisia produces dilatation of the pupil that lasts from six to ten days. From the investigations that he has made upon this subject, M. Galezowski has demonstrated that the paralysis of the sphincter of the iris and of the muscle of accommodation lasts for more than eight days in the healthy eye, but in the diseased eye the mydriatic effect is less persistent. He has employed this agent on more than thirty patients and it may to-day be said that the action of 1:20 solution of Duboisia is quite as powerful as the 1:10 solution of atropia. If we shall be able to prepare its alkaloid, we shall have without doubt an agent more powerful than any of those we have known of up to the present time. This is not all! The Duboisia plant presents

yet other advantages over atropia. An aqueous solution 1:20 instilled into the eye does not irritate the conjunctiva, while atropia provokes such an irritation that we are obliged to absolutely abandon its employment in certain individuals. M. Galezowski tells us that he has seen to supervene inflammations of the conjunctiva, ectropium, hallucinations, delirium and even convulsions in infants, following the instillation of a collyrium of atropia. The collyrium of duboisia does not cause these accidents, and where the atropia has had to be abandoned on account of its irritating effects, the new mydriatic may be employed with the most satisfactory results.

Our confrére reports also several observations that have been collected by one of his assistants, M. Adon Guéneau de Mussy; they show, in the most conclusive manner, the efficacy of the extract of duboisia in the treatment of certain ocular troubles. In a girl suffering from severe keratitis trachomatosa, neither atropia nor daturine could be employed during more than a year without aggravating the difficulty; with the *duboisia* the inflammatory condition was easily relieved, so as to allow the cauterizations of the lid to be continued.

In a man affected with irido-choroiditis in whom iridectomy failed to prevent repeated relapses of the inflammation, and when atropine only aggravated the difficulty, a collyrium of *duboisia* has arrested all inflammatory attacks for more than three weeks.

Finally, M. Galezowski said it was desirable to learn if the action of this collyrium extended to the internal ocular membranes. It is known that the action of atropine does not reach beyond the anterior hemisphere of the eye; the action of duboisia causes considerable dilatation of the retinal veins. If this fact is verified, we will have one of the most valuable agents for treating affections of the bottom of the eye.—*Le Mouvement Médical.*

[Further researches are promised on the subject, which will be given our readers as they appear.]—*Clinic.*

An enlarged clitoris, weighing two pounds, was exhibited at a recent meeting of the Pathological Society of London.

Original Communications.

CLINICAL REMARKS ON CATARACT AT THE TORONTO GENERAL HOSPITAL.

BY R. A. REEVE, B.A., M.D.,
Oculist to the Institution.

HARD CATARACT.—This patient, Mrs. F., æt. 50, a healthy, active woman, first seen this morning, states that her sight has been failing for a length of time, and she found her left eye to be blind about a week ago. The eyes have been free from pain or inflammation, and they were of normal tension and appearance except that the left pupil had a grey reflex.

I have dilated the pupils with atropine, and you observe the left crystalline lens as a grey opaque disk lying just behind the plane of the iris. The right lens appears hazy and marked by grey striæ at its periphery. Taking the patient into the dark, ophthalmoscopic room, facing the lamp, and at about two feet from it, and focussing the light obliquely within the area of the left pupil with a strong lens (2¾in.)—*focal* or *oblique illumination*, the opaque lens becomes better defined; and the striæ in the cortex of the right lens can be easily seen and located. Now, placing the lamp behind the patient's head, and a little on one side, and reflecting the light into the left eye with the ophthalmoscopic mirror, the pupil seems impenetrable and dark, while that of the right eye has an orange reflex with the lenticular striæ showing as dark or black peripheral lines. Still using the mirror, and placing the strong lens in front of the patient's right eye, I can readily perceive the optic disk, retinal vessels, choroid, &c. The sight of this eye still suffices for ordinary purposes. With the left eye the lamp-flame can be noticed in any part of the field of vision, the position of a window can be discerned, and also an object, as the hand, moving before the eye.

This case presents the ordinary features of uncomplicated cataract,—subjectively, a *painless*, gradual loss of sight without apparent cause; it may be, one eye becoming useless long before the other: objectively, a healthy organ, with a moderately active pupil revealing a more or less opaque lens.

Cataract is simply opacity of the crystalline lens, and is termed *mature* when the whole lens substance is involved. As the lens becomes somewhat firm at about forty-five years, a cataract developing at and after that period is termed *hard* or *senile;* and also *nuclear*, because the denser nucleus of the lens is frequently opaque and of an amber tint, while the cortex is but partly invaded. Mature cataract can be pretty surely detected without artificial aid, but not so with the immature; and the sight is sometimes very dim from the posterior layers of lens tissue being opaque long before the rest of it is affected. As a rule, therefore, a diagnosis should not be made at a glance, even when the background of the pupil seems gray, but the method of examination just gone through should generally be followed. For there is a physiological haziness of the lens in old subjects which simulates cataract to the naked eye. Besides, dimness of vision is often due to morbid changes in the vitreous, or at the fundus only discernible with the ophthal moscope; and again, cataract may follow or be secondary to other affections, as glaucoma, detachment of the retina, disease of choroid, &c., which would invalidate an operation.

It is important to note the *tension* or hardness of the eyeball, the degree of sight, and the extent of the field of vision. The tension is tested, as already shown, by gentle palpation with the tips of the index fingers upon the lid, the eye being closed; and it should specially be observed if there be a dilated or very sluggish pupil, so as to exclude *glaucoma*, the simple or chronic, non-inflammatory form of which not infrequently occurs in those of forty-five years and upwards. A hard globe, with a large, insensitive pupil indicates glaucoma, and the removal of a cataractous lens,—if such be present—in order to restore sight, would likely prove worse than futile. I was once asked by a brother practitioner to see a case in which he proposed to operate for cataract. The appearance of the lens was deceptive, for it was not opaque, but the eye proved to be glaucomatous, the optic disk being deeply cupped, owing to excessive intraocular pressure. Again, in simple cataract an object, as the hand, can be discerned when moved between the eye and a window or light, &c., and in a darkened room, the position of a lamp flame can be determined in any part of the field of vision.* In confirmed glaucoma, on the other hand, the inner or nasal half at least of the field is generally quite blind; while a blank in the lower or upper half would most likely be due to detachment of the retina in an opposite part of the fundus.

In the case before us the cataract is without apparent cause, and this is the common experience. Mal-nutrition of the lens may be considered the direct cause of cataract, and, as already stated, may be secondary to glaucoma, disease of choroid, diabetes, &c., or due to a jostling of the lens in its fossa or its luxation from concussion of the ball. There is often an hereditary tendency to cataract, and in many cases, too, it seems fairly attributable to excessive use of the eyes. The lens substance also becomes opaque under the action of the aqueous humour, when the latter has access to it through a puncture or rent of the capsule, as by a foreign body, instrument, &c.; and, again, where the iris is largely adherent to the lens capsule, owing to neglected iritis, secondary opacity of the lens often supervenes. In this instance the operation on the left eye will be deferred until the patient finds the dimness of the other begin to interfere with her work. Formerly, it was the practice not to operate until the second eye became blind, but it is now held that the anxiety and mental desuetude and the enforced physical inactivity caused by such delay militate against the success of the operation; and, therefore, the eye first involved is operated on while the cataract is yet ripening in its fellow. As, however, one eye often becomes blind many months or several years before the other, the operation on the eye primarily affected will generally not be required and as a rule should not be advised until its cataract is fully mature. Indeed, it may be several months after an eye has become practically blind before the lens substance up to the anterior capsule has become opaque.

* A patient was once under my care for sympathetic ophthalmia induced by an operation for cataract upon an eye that had been stone-blind for years, the surgeon having seemingly neglected to test the sight.

Senile cataract was formerly often treated by *couching* or *reclination*, that is, the lens was dislocated from its fossa backwards and downwards into the vitreous by means of a flat slightly curved needle passed through the sclera, behind the iris and against the face of the lens. This procedure is now virtually obsolete, and was discarded, although easy of execution, because the hard lens, in its new position, acted as a foreign body in a large percentage of cases, and excited irritation and inflammation which issued in complete blindness. In the modern operations the cataractous lens is removed from the eye, or "extracted," as you have already seen. Until recently "flap" extraction (fig. A.) was largely performed, the distinctive features of which are the use of a broad triangular knife; an incision dividing nearly one-half of the corneal margin either above or below from the sclera; and the evacuation or extrusion of the lens through the pupil without an iridectomy.

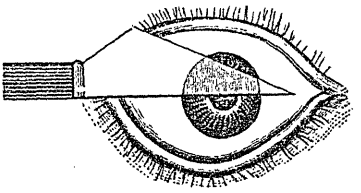

FIGURE A.

Now-a-days, some modification of the so-called "modified linear" operation, (fig B.) devised by the late celebrated Von Græfe, is generally done, its characteristics being, the use of a narrow or linear knife; iridectomy; and a somewhat curvilinear incision across the summit of the cornea.

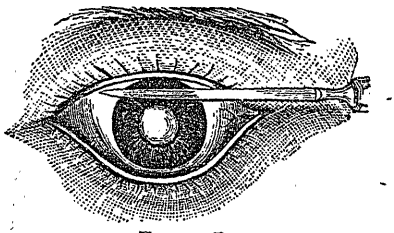

FIGURE B.

You have seen various cases in illustration of the latter method. The patient lying on his back in bed, with the lids separated by a stop-spring speculum, and the eye steadied by fixation forceps grasping the conjunctiva a little below the cornea, the knife, with its point directed towards the centre of the eye, is passed through the sclero-corneal junction a little below the top of the cornea into the anterior chamber at its upper and outer part; its handle being then depressed it is pushed quickly in front of the iris and made to emerge at a point horizontally opposite that of entrance (counter-puncture). The forceps being then laid aside, and the cutting edge of the knife directed upwards and forwards, the section is carefully finished so that its centre lies just within the corneal tissue, the patient being at the same time encouraged to avoid straining. The delicate iris forceps are then passed through the cut, a small fold of iris seized near the pupillary edge, withdrawn and snipped off. The speculum is then removed, the patient being warned not to squeeze the eye. The upper lid being then raised, the patient looking downwards, the cystitome or pricker is passed into the anterior chamber and its point drawn lightly over the capsule along the margins of the pupil. Careful pressure is then made against the lower part of the cornea with a small india-rubber spoon or curette; and the lower edge of the lens being thus pushed back the upper tilts forward and engages in the wound, from which the lens emerges, the cornea being gently stroked upwards to favour the escape of any cortical matter. The pupil being clear enough to enable the patient to count fingers at two feet, and the lips of the cut being freed from any debris, straps of rubber and silk plaster are applied to the lids of both eyes, and then a light bandage, if it is thought desirable; or, preferably, the eyes are covered by a fold or two of dark silk, which is fastened to the forehead. Great care has to be taken during the operation to avoid compression of the globe by the operator or by contraction of the orbicularis, so as to prevent rupture of the hyaloid capsule and escape of the vitreous humour. Generally the patient is kept quietly in bed for forty-eight hours, using a feeding-cup and bed-pan p.r.n. The day after the operation the straps are gently washed off and a drop or two of sol. atropiæ sulph. grs. iv. ad ʒj. applied; and this is done daily for about a fortnight, straps or a bandage being used for a week, and afterwards a shade for a while.

The vision of the naked eye after extraction is quite defective, its refractive power being materially reduced and a very high degree of hyperopia produced by the absence of the lens. The aphakial eye requires, therefore, a powerful convex lens in order to focus rays from more or less distant objects upon the retina and secure correct vision.* Lenses of from $2\frac{3}{4}$ to $3\frac{3}{4}$ inches "focus" are generally necessary for ordinary wear; and as the accommodation is destroyed when the lens is removed, the clear perception of near objects as, print, &c., is only had by using still stronger glasses, namely, $+ 1\frac{1}{2}$ to $2\frac{1}{2}$. In some instances a cylindrical lens conjoined with the ordinary spherical improves the sight much more than the latter alone; and in the very exceptional cases where the eye was originally highly myopic a glass may not be required, or only one of a low power.

Advanced age is no bar to the operation, provided there be vitality enough to insure the healing of a wound so large as to give exit to the lens. I have had a patient aged eighty-five, and another eighty-three, both of whom did well and recovered good sight, being able, with proper spectacles, to go about as of yore, and also to read small print. Those who are inordinately fat or are prone to marasmus, and the victims of dyspepsia or alcoholism are not good subjects for extraction; but fair results are sometimes got by the modified linear operation in cases which would issue badly under the older flap method, for the latter, owing to the length of the cut and the less perfect coaptation of its lips, demands a much higher reparative power. Since sensibility becomes blunted in senility, extraction is generally well borne without anæsthesia; in fact, we have never employed it, and have seldom regretted dispensing with it.

Circumstances sometimes necessitate a departure from the ideal operation. You have seen that occasionally if the lens did not escape readily, the incision was enlarged a little at one end with fine scissors, the point of one blade being passed into the wound and between the cornea and iris. In some instances, again, where the patient was restive the knife was removed before the section was quite completed, a small bridge being left, which was divided after the iridectomy and laceration of the capsule. In the case of M. F——, whose palpebral aperture was abnormally small, the speculum and forceps were dispensed with. The upper lid was raised and pressed back against the edge of the orbit with the left index finger, the bulb of the middle one being placed against the inner side of the ball, to steady it. The section was then made *downwards*. No mishap occurred, and the patient recovered very good sight. The section at the upper edge of the cornea has the merit of hiding, more or less, the coloboma caused by the iridectomy. In the case of Mrs. R——, no iridectomy was required as that operation had been done several years previously for glaucoma, following ulceration of the cornea during gonorrhœal ophthalmia. The iridectomy had saved the eye: and the final result was excellent, the patient going out with vision $\frac{1.2}{1.0.0}$ with a $+ 3\frac{1}{2}$ lens, and with a $+ 2\frac{1}{4}$ able to read ordinary print, though the haziness of the cornea from the old ulceration interfered somewhat with the sight. In K—n's eye the iris was largely adherent to an opaque cicatrix of the cornea (leucoma adhærens), and partially also to the lens capsule. The knife was made to pierce the iris and pass through the anterior chamber behind it, and then cut its way out. The lens was with difficulty removed, but the patient finally recovered fair sight. In the case of L—— the cortex was fluid and freely escaped when the capsule was opened, leaving a nucleus so small that it would not readily present, though it came away at last without the use of a spoon. Occasionally some blood flows into the anterior chamber after the iridectomy, and requires removal by gently stroking the cornea towards the wound, the lips being made to gape slightly. It should be observed that the less the lips of the wound are irritated, and the anterior chamber disturbed by instruments, the less likely is inflammation to develop.

The most common serious mishap that occurs during extraction is escape of the vitreous. If the lens be not well engaged in the wound before the hyaloid ruptures, it will give place to the escaping humour and sink down behind the iris. This occurred in the

* With proper lenses, the final visual result is satisfactory in about 85 per cent. of the cases of extraction.

case of C——e, probably owing to the removal of a tough, opaque piece of capsule with forceps after laceration with the cystitome,—an expedient sometimes required: on applying the usual pressure to evacuate the lens, a bead of vitreous presented and the lens receded. A small "spoon" was at once passed through the cut directly backwards and then downwards behind the lens, which was brought quickly out with but moderate loss of the vitreous; straps and bandages being then applied. The eye was opened on the third day, when the wound was found closed, and on the fourth day the patient was allowed to get up. There was a slight reaction, but the inflammation subsided under atropine drops and hot fomentations. In a fortnight the pupil was clear, and there was no pain or irritation. The loss of vitreous is made up by aqueous humour, and one-fourth or more sometimes escapes, a good result finally ensuing. When, however, much vitreous is lost, detachment of the retina, or hæmorrhage from the intraocular vessels from want of support may be feared. In the case of Mrs. P——, the orbicularis was forcibly contracted just as the lens was emerging, and a good deal of vitreous was lost. The recovery was tedious and the sight imperfect.

The chief bad results following extraction are suppurative keratitis, iritis, and so-called secondary cataract. Suppuration of the cornea is generally a result as well as sign of impaired vitality, and is the more dangerous when it develops without acute symptoms. W. C——, admitted with double cataract, subject hereditarily to rheumatic arthritis, a sufferer from chronic alcoholism, had fallen from a highly respectable position in society to that of tally-keeper in a billiard-saloon; was kept on good diet and constitutional treatment for six weeks or more after admission. Then extraction by Liebreich's method was done, that is, the incision was made across the cornea, about midway between its lower edge and the pupil, and the lens was evacuated without an iridectomy, the pupil being quite dilatable. The lens came out entire, and there was no prolapse of iris. There was no inflammatory reaction, but on the third day the anterior chamber was turbid, and the lips of the wound were grey, and on the fourth day the cornea also had become infiltrated. Atropine and hot fomentations were applied, but the cornea shortly necrosed and the eye atrophied. This case teaches the lesson that both eyes should not be operated on at one sitting. Fearing that the patient's system was radically vitiated, another method was tried with the other eye, which, at any rate, would not seriously jeopardize it. Needling, *(keratonyxis)* was practised, and repeated at intervals during many months. The pupil being fully dilated, the lids were separated by a speculum and the eye steadied with forceps, the needle being then passed through the cornea near its margin and made to pierce the lens capsule and enter the lens as gently as possible so as not to disturb it in its bed. The eye was afterwards kept closed for several days and the pupil dilated. This patient's form became a too familiar one in the wards. The lens proved to be very hard and practically insoluble in the aqueous humour. Eighteen needlings were done without having drilled a hole through it or reduced it materially. At last, hoping that the regimen of the hospital had restored a fair degree of vigour, extraction was decided upon and done. The eye healed kindly, and five weeks afterwards the vision was $\frac{5}{10}$ with a + 3 lens. Finding, however, by oblique illumination that the posterior lens capsule was not quite transparent, a clear pupil was made in it opposite the normal one by means of a cataract needle, atropine being used for a few days. As some of you saw, vision finally reached $\frac{20}{xx}$ Snellen, with a + 3 lens, and with + 2 the patient could read the finest print. C—— is now a sober, reputable member of society, and engaged as a grain-buyer. It not infrequently happens that the posterior capsule becomes translucent, appearing under oblique illumination as a delicate gauze; and though it may be clear enough to enable one to see the optic disk and retinal vessels, its division with a needle is advisable as soon as the eye has healed thoroughly, namely, in from two to eight weeks.

The term, secondary cataract, is more properly applied to an opaque pupillary membrane resulting from a deposit of lymph on the posterior capsule from iritis or due to sclerosis of the capsule following retention of pieces of

cortical lens matter, proliferation, capsulitis, &c. In the case of F——, the eye was painful the day after the operation, and there was slight chemosis of the ocular conjunctiva, and infiltration of the lips of the wound. A mixed iritis, capsulitis, and localized inflammation of the cornea ensued, and was treated by instillation of sol. atropia sulph. grs. iv. ad ʒj. four times a day, frequent hot fomentations and occasional depletion from the temple by cupping. The pupil became closed by an opaque membrane to which the iris was adherent, and the patient could just discern a hand moved before the eye. Several months afterwards the operation termed *iridotomy* was done. The lids being separated by a stop speculum and the eye held by forceps, a lance-shaped knife (*keratome*) was passed obliquely through the lower part of the cornea, its point piercing the membrane: delicate, peculiar scissors known as Wecker's iridotomy scissors were then passed into the anterior chamber, one blade into opening and behind iris, when, with a snip, a clear, oblong, almost central pupil was made. The eye was closed with straps, and cold dressings applied, and it was kept under the influence of atropine. No re-action followed, and V = $\frac{2}{3}$. Iridotomy is a very effectual method of dealing with pupillary obstructions, and is much safer than the older expedients of using one or two needles, or a sharp hook, &c., to tear an opening in the tough membrane, or attempting to extract it.

Prolapse of the iris occasionally occurs after extraction before the wound has healed, owing to the restlessness or straining of the patient, or to too early getting up. No example has presented here. The prolapsed part may require to be snipped away, or the "hernia" may be pricked with a needle from time to time, and a pressure bandage worn. The latter treatment generally suffices also where the so-called *cystoid* cicatrix develops.

(*To be continued.*)

J. Von Lenhosék has constructed an apparatus which permits no fewer than sixty microscopical preparations to be observed in immediate succession, without changing the slides and readjusting the objective. He calls it the "Polymicroscope."

Translations.

From *Lyon Médical.*

The Diarrhœa of Children and its Treatment.

After a rapid exposition of the causes and symptoms of infantile diarrhœa, M. Blache insists upon the treatment proportioning the medication to the degree of intensity of the disease. As to the question of diet, he recommends regularity of the meals varying in number according to the age and energy of the child. He insists upon redoubling the vigilance at the time of evolution of the teeth, and especially at the epoch of weaning; the importance of continuing the use of milk in the alimentation of children, and of only abandoning it in persistent diarrhœa after having tried the employment of the various kinds of milk, (cow's, goat's, and ass's). As a preventive of intestine troubles, M. Blache advises the wearing of a flannel binder, which has the double advantage of protecting the children against chills, and of supporting the belly and preventing that tendency to swelling which occurs on the least intestine trouble. Whatever be the nature of the diarrhœa, its origin, its intensity, or the time elapsed since its inception, the treatment which the author proposes, modified according to the cases, has constantly been successful in his hands.

1st. Diminution of the nourishment; appropriate injections repeated as required; and the application of poultices to the belly.

2nd. Administer each morning, for three, four, or five days in succession, a small teaspoonful of a mixture of *equal parts of castor oil and syrup of acacia*, simply emulsionized by shaking the bottle at the time of giving the medicine.

In order that this medication may produce a curative effect it is necessary to give the mixture in very small doses, and to repeat its employment for several days in succession. Three or four days running is generally sufficient to modify the nature of the stools and to diminish their number. If after two days' treatment the diarrhœa is moderated without disappearing it should be suspended for a day, and then the same dose should be resumed, but after a day's interval. It is evident that in saying the

medium dose of the purgative mixture is a teaspoonful it is understood that the dose must be proportioned according as we may have to do with a child of six weeks or one of eighteen months. To be more precise as to the castor oil, let us say that a gramme suffices before six months and 2 or 3 grammes up to two years. In cases of an abundant and liquid discharge, repeated twelve or fifteen times, or even more, in the twenty-four hours, M. Blache doubles, or even triples the dose of the syrup, and adds to it Sydenham's laudanum (vinum opii) in small quantity, (1 to 3 drops at most in the twenty-four hours, according to the age.) In benign diarrhœas the purgative mixture is useless, and the use of chamomile injections for a day or two suffices to entirely arrest the laxity. When to the diarrhœa are added manifest signs of gastric derangement, M. Blache does not hesitate in the beginning to administer an ipecac. emetic, and when to a burning fever are joined nervous symptoms, giving rise to a fear of convulsions, he gives calomel in fractional doses before the castor oil. —*Journ. de Thérap.*

From *La France Médicale.*

Treatment of Erectile Tumours.

BY DR. VERNEUIL.

The *Gazette des Hôpitaux* contains a *résumé* of a lecture by M. Verneuil on the treatment of erectile tumours. The Professor passes in review the treatments successively recommended to remove this affection. Compression, multiple ligature, elastic ligature, canterization with caustics, and interstitial cauterization by means of needles red-heated either by fire, or by galvanization or the thermo-cautery. More recently the method of coagulating injections made by means of a Pravaz syringe armed with a gold or platinum needle has been much employed. The needle ought to penetrate deeply so as to deposit the coagulating fluid in the very centre of the tumour. It is sometimes necessary to puncture in several points of the circumference. It is not, however, necessary to make the needle penetrate into the very interior of the vessel; wherefore, in the case of voluminous tumours, after having injected some drops deeply, you should withdraw the needle a few millimetres, inject again a few drops of the liquid, again withdraw, and again inject the coagulant. It is known that the danger of this method is the production of an embolus, if the liquid penetrate too suddenly into a vascular ampulla and a clot be carried into the general circulation. To prevent this accident, fortunately a rare one, it is desirable to compress the circumference of the tumour for from three to five minutes, the time regarded necessary for the clot to become adherent to the vascular wall. M. Verneuil employs for this purpose the ring of an ordinary key. The coagulant fluids employed are:—

1. The perchloride of iron at 30°, diluted with one-half of water, so as to bring it to about 15°.

2. The iodo-tannic liquid in use at Lyon, which is less irritant, but forms clots less rapidly, and these, moreover, are less adherent.

3. In Italy, chloral diluted with one-half of water is recommended, but if this liquid is a good coagulant and is not toxic, unfortunately the clots formed at length dissolve, and Prof. Verneuil has observed relapses. M. Verneuil has also satisfactorily employed Piazza's liquid, of which, according to Dr. Th. Auger, the following is the formula: ℞ distilled water, and perchloride of iron, of each 30 grammes, of chloride of sodium 4 grammes. In one case in which M. Verneuil had to make four punctures in an erectile tumour on the arm of an infant, he deposited 3 drops only in each puncture, or in all 12 drops of the fluid.

From *La France Médicale.*

Treatment of Hiccough by Pilocarpine.

BY DR. ORTILLE.

Dr. Ortille, of Lille, in a letter published in the *Bulletin de Thérapeutique*, declares that in a case of obstinate hiccough in a man 65 years of age, who had been suffering for some years from the consequences of cerebral thrombosis, vertigo, scintillations, transient hemiplegia, vomiting, and lastly, persistent hiccough, he conceived the idea of injecting 2½ centigrammes (⅜ths grain) of chlorhydrate of pilocarpine, and that a quarter of an hour after the injection, the hiccough had disappeared not to return again. The patient was covered with sweat, and salivation was set up.

From *Le Progrès Médical.*

REFLEX TREMBLINGS IN HEMIPLEGIA.

At the *Sociètè de Biologie* on 1st June, M. Dejérine made a communication upon the existence of a reflex trembling in the lower limb of the sound side in certain hemiplegias. The reflex trembling of the lower limb of the *paralysed* side, in certain hemiplegias, has been known for several years; we know that in cases where this phenomenon occurs, in order to determine its appearance it is sufficient to strongly flex the foot upon the leg; a rythmical trembling is then seen to occur impressing upon the hand of the observer a series of regular shocks. This trembling is known clinically under the name of reflex trembling of hemiplegias, and is rather commonly observed (*Vide* Charcot "Dis. of Nerv. System," Vol. II. p. 261 and 337). Up to the present this phenomenon has never been observed except in the paralysed limb. A series of researches, undertaken by the author with this view, shows in the clearest fashion that this trembling may present itself with absolutely similar characters in the lower limb of the *sound* side, and moreover, that it is met with in a rather large proportion of cases. Out of fifteen hemiplegics observed with this respect, the author has met with it five times, and in these five cases the trembling was so marked in both lower limbs, that at the first sight we might have thought we had to do with a paraplegia from compression of the medulla, or with a patchy sclerosis of spinal form. But in all these cases the limb opposite to the paralysed side was absolutely intact as far as mobility and sensibility were concerned. The explanation of this phenomenon is difficult enough, for, up to the present, autopsies have been wanting. Perhaps the lateral scleroses which are constant on the paralysed side in old hemiplegias, has in these cases invaded the lateral cord of the sound side.

TREATMENT OF RHEUMATIC GOUT.

BY A SUFFERER.

"Try lemon juice, or colchicum,
Unsweetened gin, or Bahia rum,
Or with gout pills your stomach cram,
Or mustard seed.
You might as well just suck your thumb—
You won't succeed."

An Invalid's Pastime.—A. Cameron.

A NEW METHOD OF REDUCING LUXATIONS.

In the No. of *La France Médicale* for 8th May, M. Bazy thus describes his method of reducing dislocation of the shoulder. The same method is equally applicable to luxations of other joints.

"A wet roller is applied from the ends of the fingers up to the lower part of the affected arm, where it serves to fasten a loop, formed either by a piece of bandage or a napkin. Through this loop is passed a rubber band, which at its other end is fastened to a ring fixed in the wall. The rubber band is thus passed alternately through the loop and through the ring, so as to form an elastic cord of 5 or 6 duplications, and about 40 centimetres (16 inches) in length. This elastic cord is not stretched at the beginning of the operation. This done, the patient is seated on a chair, the arm being then in abduction and horizontal. A counter extending band is passed around the body, and to this band is fixed one of the hooks of a pulley-tackle, the other hook of which is fastened to some object. The cord of the pulley is then slowly tightened, the chair being pressed back with the feet so that the patient always remains seated." Reduction may thus be accomplished with great ease and with little or no pain in from 3 to 8 minutes. M. Bazy appends a table of 13 cases so treated at the *Hôpital Saint Antoine* during the year.

From *L'Union Médicale.*

SYRUP FOR RHEUMATISM.—SIREDEY.

Iodide of potassium, 75 grains; Iodine, ¾ grain; Syrup of gentian, 4 ounces.

Dissolve.—One tablespoonful, morning and evening, in chronic rheumatism of the small joints. A vapour bath every second day; application of tincture of iodine over the affected articulations.—In cases of insuccess, substitute for the vapour baths, baths of arseniate of soda as recommended by M. Gueneau de Mussy.

REMEDY FOR THE OXYURIS VERMICULARIS.

M. Morelli has recognized the efficacy, in obstinate cases, of hydrate of chloral, and has prescribed it as an injection. Hydrate of chloral, 1 part; Pure glycerine, 4 parts.—*Lyon Med.*

From *Lo Sperimentale.*

Unilateral Luxation of the 5th Cervical Vertebra by Muscular Action.

BY VOELKER.

(Gazz. delle Clin.)

A strong workman bearing a weight upon his back, as was his custom, heard a crepitation in his neck and became unable to straighten his head: he experienced painful cramps which radiated from the nucha along his right arm. The head was inclined to the left, and its movements were restricted and painful. The muscles were markedly prominent on the right side of the neck, where they presented a rounder outline than on the left. The line of the spinal apophyses presented no sensible deviation: the 5th spinous apophysis was painful to pressure; and at this level on the right could be felt a slight projection which was continuous with the spine and was deeply situated between the trapezius and sterno-mastoid; on the left, on the other hand, there was a depression. Voelker raised the head of the patient, inclined it strongly to the left, and then impressed upon it a movement of rotation to the right; a click was heard, and restitution was accomplished and maintained. The diagnosis of luxation of the 5th cervical vertebra, unilateral and produced by muscular action, was confirmed by the facility of reduction.

From *La France Médicale.*

On the Inverse Type of Temperature as a Symptom of Miliary Tuberculosis.—The inverse type of the body temperature, that is to say, a high degree in the morning and a lower one at night, is a symptom of great clinical value in the diagnosis of miliary tuberculosis, either acute or consecutive to caseous pneumonia. Out of seventy-one subjects dead from phthisis, Prof. Prunniche has noted this type of temperature in the proportion of 63 per cent.

In the subjects who had succumbed to caseous pneumonia without miliary tubercles the proportion was 25 per cent., whilst in the caseous pneumonias with miliary tubercles the proportion rose to 85 per cent.—*Il Morgagni.*

From *L'Union Médicale.*

Treatment of Epistaxis.—(Keetley.)

In cases of epistaxis, which are more troublesome than dangerous, and which almost always appear at an inconvenient moment, the author recommends lotions of hot water to the face and nose, and declares that he has obtained better effects from them than from cold water. He thinks that the hot water acts simply by diminishing the congestion of the mucous membrane, which is the primary cause of the majority of epistaxes. It is, of course, understood that this means is not applicable to those serious cases which require plugging.

In several cases in which the tampon, as well as the perchloride of iron have failed, Dr. George has succeeded in arresting the bleeding by prescribing the internal use of the extract of ergot of rye. Every quarter hour until the epistaxis ceases he administers a draught containing 15 minims of the liquid extract of ergot, (about 60 centigrammes, or 9 grains.) Even then, after the hæmorrhage is arrested, the patient should continue to take the same dose every quarter of an hour for a day or two. The author cites three observations in support of this mode of treatment.

From *Le Progrès Médical.*

At the *Société de Biologie*, on the 1st June, M. Albert Robin pointed out two unknown characters of the urine of interstitial nephritis. 1st. The presence in this liquid of a notable quantity of urohæmatine. 2nd. The existence, under the microscope, of crystalline, or amorphous pigmentary masses, and of *garnet masses*, probably formed of hæmatoidine.

It is interesting to compare these characters, observed in interstitial nephritis, with the urine of active globular denutrition.

From *L'Union Médicale.*

The Gastric Juice.

At the *Académie de Medecine*, on the 11th of March, M. Berthelot communicated a note from M. Richet, jun., upon the nature of the gastric juice which appears to be a chlorhydrate of leucine. M. Richet has succeeded in isolating the crystallized leucine. There, therefore, remains no doubt in this respect, and the question may be considered settled.

THE CANADIAN
Journal of Medical Science,
A Monthly Journal of British and Foreign Medical Science, Criticism, and News.

TO CORRESPONDENTS.—*We shall be glad to receive from our friends everywhere, current medical news of general interest. Secretaries of County or Territorial medical associations will oblige by sending their addresses to the corresponding editor*

TORONTO, AUGUST, 1878.

☞ SUBSCRIBERS in arrears will greatly oblige by attending to the enclosed bills at their earliest convenience.

UNIVERSITY OF TORONTO.

THE NEW CURRICULUM IN THE FACULTY OF MEDICINE.

There is much hope for the future of medical education in Ontario. "The winter of our discontent is now made glorious summer" by changes recently effected in the curriculum in the faculty of medicine of our Provincial University. Remembering the flattering encomium expressed by Dr. Storrar, the chairman of Convocation of the University of London, on the standing of the University of Toronto, when the value of colonial degrees was lately called in question in the mother country, it is highly gratifying to witness this evidence of a determination on the part of the Senate of our University to prove worthy of that good opinion, and to emulate as far as possible the brilliant example of our great prototype. To the medical faculty of the University of London is chiefly due the unrivalled fame of that great source of academical distinction and foster-mother of sound scholarship. To the medical faculty of the University of Toronto is committed a no lesser trust. There is this difference, however, between the two degrees. That of the University of London confers a title to enrolment on the Medical Register of Great Britain; that of the University of Toronto will probably confer a somewhat similar privilege in the old country, but in our own land is regarded as one of purely honorary distinction, and carries with it no right whatever in connexion with professional practice. Hence arises here the greater need of making that degree which confers pure honour, unalloyed with sordid interests of baser sort, an honour to possess by reason of the thorough training and the high attainments it exacts.

A University degree in whatever faculty should be an evidence of general culture and refinement, as well as an attestation of special professional or scientific attainments. While, therefore, it would be harsh to exclude from any examination entitling to practise those whom the *res angustæ domi* had prevented from obtaining more than the rudiments of a liberal education, it would on the other hand be derogatory to the dignity and fatal to the highest interests of the Provincial University, to continue to confer degrees in the faculty of medicine upon men whose literary attainments were of a character to detract from rather than reflect credit upon the "testamur" of the representatives of their *alma mater*.

We are equally pleased to observe that a *quasi* premium has been placed upon the attainment of honours in the department of natural sciences in the arts-course by absolving graduates in arts holding such distinctions from the payment of the matriculation fee in the faculty of medicine. Any future changes in the regulations referring to matriculation, we trust will be in the direction of elevating still further the standard of that examination.

Coming now to the "Regulations relating to undergraduates," it is with pleasure that we exercise the privilege of continuing to speak of these enactments in terms of highest commendation. The course herein adopted of requiring undergraduates to pass the examinations of each year at the appointed time, and rendering failure to do so a bar to further progress, until such time as this regulation shall have been complied with, is, in our opinion, one of the most important and desirable of the changes which could possibly have been made. We are persuaded that it cannot fail to redound to the highest advantage of those affected by it. The subclauses providing

for cases of sickness, and failure in one or two subjects, with evidence of proficiency in the rest, will prevent the application of this regulation from being unduly rigid or severe.

Here, again, graduation in arts in the University, with honours in the department of Natural Sciences, very properly confers a certain advantage, such graduates being exempt from the first professional examination and ranked in the first-class honour list of that examination. They are, of course, however, obliged to take the anatomy of that examination along with the second professional examination. Fixing the pass standard at 50 per cent. of the maximum number of marks in all subjects, and at 33⅓ per cent. in each individual subject, is not being excessively exacting; and we think that any future changes will have to be in an upward direction. However, for the present this will suffice. The exaction of certificates of practical and laboratory instruction in anatomy, inorganic chemistry, natural philosophy, botany, zoology, histology, physiological chemistry, practical pharmacy, chemistry in relation to hygiene and forensic medicine, the dissection of the human body twice, proficiency in vaccination, clinical instruction in a public Lunatic Asylum, and attendance upon twelve autopsies, is an innovation fraught with the highest utility, and calculated beyond all cavil to secure thoroughness of training and practical proficiency. It is quite clear that the outcome of these clauses, and, perhaps to a certain degree, their design, is to compel attendance at the new government school of practical science, as being the only place at which the facilities for complying with many of these regulations can be obtained.

The clinical instruction in lunacy will be especially valuable, this being a department of medicine now too much neglected by practitioners in general, since, for the most part, they alone are called upon to diagnose and treat the incipient and curable stages of those morbid physical processes whose issue is "the mind diseased." In the honour course seventy-five per cent. has been fixed as the minimum of marks entitling a candidate to be ranked in the first class, and sixty-six per cent. in the second class, at any of the professional examinations; and at the final examination for the degree of M.B., only those candidates will receive first-class honours who have been placed in the Honour List in all of the four professional examinations, and who have succeeded in obtaining first-class honours in at least three out of the four. In order to be placed in the second class Honour List at the last examination the candidate must have been placed in the Honour List in three out of the four professional examinations, and must have succeeded in obtaining first-class honours in at least one of the Professional examinations. This regulation will, very properly, render honours at the last examination very difficult to obtain, and also makes them contingent upon manifested proficiency throughout the course.

One of the most laudable changes in the whole curriculum, and one in complete consonance with the spirit of the age, is the institution of clinical examinations in medicine and surgery at the third and fourth professional examinations. What is still required to make the amendments well-nigh perfect is a demonstrative or practical examination in the subjects of anatomy, pathology, histology and materia medica, such as have been provided for in chemistry. As far as attendance upon didactic lectures is concerned, the curriculum manifests an inclination to subject students to over-lecturing, unless, indeed, the requirement of attendance upon so large a number of lectures should lead to the very desirable result of inducing the teaching bodies to extend the length of their winter sessions to nine months, and to relegate certain subjects (botany, materia medica, hygiene, &c.,) to the summer session. The requirements for admission to the degree of M.D. remain the same as heretofore.

Much propriety and wisdom appears to us to have been manifested in excluding graduates or undergraduates in medicine in any other University from competing for the scholarships or medals. These enactments are prospective, and the regulations relating to the first professional examination come in force in 1879; those for the second, in 1880; for the third, in 1881; and for the fourth in 1882.

The effect of these regulations will doubtless, at first, be to very materially curtail the number of candidates for graduation in the Faculty of Medicine. The honour of possessing a degree in medicine from the University of Toronto will be augmented in direct proportion to the stringency of the requirements and examinations necessary thereto. The degree will thus come to be much coveted by all our students and practitioners of medicine, and will, moreover, be of much practical advantage to its possessor as an evidence of more thorough training and higher attainments than any other in the Province. Even should this prophecy fail of fulfilment the promoters of this new curriculum will have the unbounded satisfaction of feeling that they have taken a long and much-needed stride forward in the cause of medical education in our midst, and of knowing that in these their laudable endeavours they have the sympathy and good wishes of all lovers of the University of Toronto and the friends of higher education throughout the land. From no source other than this fountain-head of scholarship and learning in the land could this commendable step in the right direction have more appropriately come, and we feel that we cannot conclude this notice of the change without expressing the great indebtedness of all to the members of the Senate, and especially to the learned Vice-Chancellor of the University of Toronto for having grappled with this vitally important subject, for the good example they have set and the impetus they have thereby afforded the cause of medical education in the Province. "*Longum iter est per præcepta, breve et efficax per exempla.*"

College of Physicians and Surgeons of Ontario.—The Committee appointed by the Council have purchased the building known as the Bay Street Presbyterian Church, but will not obtain possession of it till next spring. The price paid was $13,000.

Canada Medical Association.—As will be seen by advertisement this Association meets in Hamilton on September 11th. We hope to see a large attendance and hear many interesting papers. *Verbum sap.*

Toronto Medical Society.—This Society was successfully inaugurated on May 16th, when the constitution and by-laws were adopted and the following officers elected:—President, Dr. Joseph Workman; 1st Vice-President, Dr. W. Canniff; 2nd Vice-President, Dr. C. W. Coveruton; Treasurer, Dr. L. McFarlane; Recording Secretary, Dr. J. E. Graham; Corresponding Secretary, Dr. I. H. Cameron. Council, Drs. Geo. Wright, Fulton, and Burns. The Society has met regularly every other Thursday, and many interesting papers have been read and discussed. As opportunity offered, members have presented pathological specimens. We hope next month to be able to give a brief account of the work done up to that time. The Society has a large membership, and is supplying one of those "*wants long felt.*"

Book Notices.

Antagonism of Alcohol and Diphtheria. By E. N. Chapman, A.M., M.D., Brooklyn, U.S.

Thirteenth Annual Announcement of the Medical College, Evansville, Indiana. Session 1878-79.

Rectal Alimentation. By William Bodenhamer, A.M., M.D. New York: William Wood & Co., 27 Great Jones Street, 1878.

Medicine—The Present and Future. An Address delivered to the Graduates of Evansville Medical College, Feb. 27, 1878. By J. W. Compton, M.D., Saint Louis, 1878.

Etude Expèrimentale et Comparèe sur L'Arsenic et L'Huile de Foie de Morue dans le Traitement de la Phthisic Pulmonaire. Par Joanny Rendu. Paris: G. Masson, *Librarie Editeur*, 1878.

Amputations and Excisions of the Cervix Uteri; their Indications and Methods. By J. Byrne, M.D., M.R.C.S.E., Surgeon-in-Chief of St. Mary's Hospital for Diseases of Women, Brooklyn, N.Y. Reprint from Vol. II. Gynecological Transactions, 1878.

After a careful observation of a number of selected cases for three months, some under a tonic expectant treatment, others treated with arsenic, and a third series with cod liver oil, the results arrived at by the author are that the patients treated expectantly or by arsenic, always lost weight, whilst those under cod liver oil gained weight and strength. A daily record of temperature, sweating, diarrhœa, weight, and strength, as tested by the dynamometer, is given. The cases selected were those in which the diagnosis was certain, and the disease pursuing a chronic course.

Meetings of Medical Societies.

MEETING OF THE WESTERN AND ST. CLAIR MEDICAL ASSOCIATION.

The twelfth regular meeting of the Western and St. Clair Medical Association was held at the Biddle House, Detroit, on Tuesday.

The following members were present:

Dr. Bucke, Superintendent Insane Asylum, London; Drs. Bray and Holmes, Chatham; Dr. Rutherford, Chatham; Dr. Flemming, Chatham; Dr. Fraser, Sarnia; Dr. Lambert, Windsor; Dr. Coventry, Windsor; Dr. Casgrain, Windsor; Dr. Tye, Thamesville; Dr. Edwards, London; Dr. Van Velsor, Blenheim; Dr. Beemer, Asylum, London.

There were also present a large number of professional brethren from Detroit, among whom were the following:—Profs. McGraw, Gilbert, Jenks, and Drs. Claland, Rouse, Connor, Lundy, La Ferte, Hawes, Smith, Brodie, Shurley, Gregory and Barclay, of Detroit; and Dr. Langlois, of Wyandotte, Michigan.

The meeting was called to order at one p.m., with the President, Dr. Tye, in the chair.

The minutes of the last meeting were read and confirmed.

A telegram from Prof. McLaren, of Ann Arbour, regretting his absence, and a letter from Dr. Abbott, of Chatham, saying that he would read his paper at the next meeting in London, were read by the Secretary.

General business came next in order. Dr. Bray observed that on account of the meeting being held at Detroit, and of the large attendance of visiting brethren to whom purely business matters would be uninteresting, it would be advisable to defer such business, none of which was pressing, till the meeting at London. Dr. Coventry contended that business questions should be considered whether interesting or otherwise to the Detroit brethren. He then objected to the change of place of meeting, and moved that the meeting should adjourn to Windsor. Dr. Casgrain seconded the motion. Drs. Bray and Bucke explained that the subject of change of place of meeting had been fully discussed at the last meeting, and that four distinct advantages were mentioned to each member in the territorial division for holding meetings in Detroit and London semi-annually.

Dr. Bray moved an amendment to the motion that further discussion upon this subject be postponed until next meeting.

Dr. Lambert seconded the amendment, which was carried.

Dr. Coventry remarked that as he could not carry his motion he saw no use of remaining, and walked out of the meeting.

A very excellent paper was then read by Dr. Holmes on "Some of the Therapeutic Uses of Cold Water." The paper was of such practical utility to the general practitioner that nearly all present took part in discussing the arguments presented in it.

Prof. McGraw then read a very carefully prepared and eminently scientific paper on "Diagnosis and treatment of malignant growths." It was listened to with the undivided attention of the hearers, and served to diffuse new and important light upon this branch of surgery. A vote of thanks was tendered the Doctor for his essay.

Papers were promised for the next meeting by Drs. Smith, Abbott, Rutherford and Fraser.

The meeting was then adjourned to assemble at London in January, 1879.

N. H. BEEMER, *Secretary.*

The Bathurst and Rideau Medical Society held their Annual Meeting on June 29th, and elected the following officers:—President, Dr. Grant; 1st Vice-President, Dr. Cranston; 2nd Vice-President, Dr. DesLoges; Treasurer, Dr. Hill; Secretary, Dr. Lynn.

Miscellaneous.

CAMPHOR AND TOBACCO.—In an article in the *Practitioner*, Dr. Edward Noakes says that in cases of overdose of tobacco, as in the sickness from smoking, etc., a dose of camphor has repeatedly proved antidotal in his hands.

M. Anglada, Prof. of Internal Pathology at the Faculty of Medicine of Montpellier, died at the end of April, aged 69. The Faculty of Nancy also lately lost one of its most distinguished masters, Rameau, Prof. of Medical Physics.

ALKALINITY OF THE BLOOD.—M. Lepine has been engaged upon researches on the variations of the alkalinity of the blood in disease. In order to determine them he mixes 1 c.c. of blood with a sufficient quantity of oxalic acid to render the mixture acid. He has observed that in chronic articular rheumatism the alkalinity of the blood is always less than in the normal state.—*Lyon Med. Soc. de Biol., Paris.*

One of the most eminent and universally beloved members of the profession in Hungary has just passed away in the person of Dr. Kovacs-Sebestény Endre of Budapest. He was the intimate friend and professional adviser of the great Hungarian patriot Déak, and during life enjoyed many marks of his sovereign's personal favour.

FATAL PISTOL-SHOT WITHOUT PERFORATION OF THE SKIN.—Dr. Hofmann (*Lehrbuch der Gerichtlich, Medicin*, 2 Band, Wien, 1878) relates the following remarkable case. A man, aged 40, fired a pistol-shot at himself in the region of the left breast. A skin-burn resulted of the size of the palm of the hand, but no rupture of continuity of the external skin. Beneath this, there was an effusion of blood; the costal cartilage was broken. In the pericardium lay a pound and a half of blood; and at the apex of the heart, on each side of the longitudinal sulcus, was a rent of the muscular fibres, extending into the cavities of the ventricles.—*British Medical Journal.*

LACTOPEPTINE.—In the treatment of Infantile Diarrhœa produced by imperfect digestion, we have had most satisfactory results from the use of Lactopeptine, also in cases of Impaired Digestion in old persons. This is one of the most valuable pharmaceutical preparations that has been placed in the hands of the profession. We take pleasure in attesting to its value from a considerable experience in the use of it.—*Cincinnati Lancet and Observer, Jan.* 1878.

AUGUSTE ALPHONSE AMUSSAT, born in Paris, on the 25th September, 1820, died in the same city, on the 31st May, 1878. His thesis for the doctorate was on the subject of the "Employment of Water in Surgery." Besides this his literary labours consisted chiefly in editing his father's papers, and a number of memoirs of his own on the use of the galvano-cautery in various affections. With him dies out a name borne with distinction by three generations of physicians.

NERVOUS PHENOMENA OF URÆMIA.—M. Picard sent to the *Société de Biol.* a note upon the cause of the nervous phenomena of uræmia. He has succeeded in producing eclamptic attacks in the dog, by injecting rapidly a concentrated solution of urea. In these cases urinary excretion ceases; but if the injection be made slowly, or if the dose be not strong enough, there occurs, instead of the uræmia, an abundant diuresis, and, the urea being eliminated along with the urine, there is no eclampsia.—*Lyon Médical.*

CAUSE OF CONTRACTION OF PUPIL FROM MORPHIA.—M. Picard sent to the *Soc. de Biol. de Paris* a note upon the mechanism of pupillary contraction under the influence of morphia. It appears to be due not to an excitation of the motorius oculi communis, but to a paresis of the great sympathetic. For if a small vein from the submaxillary gland be laid bare and opened, the flow of blood will be seen to increase after the injection of morphia; a result not modified by section of the chorda tympani. Morphine therefore produces a weakening of the action of the sympathetic.—*Lyon Médical.*

TREATMENT OF WHOOPING COUGH.—MM. Louvet-Lamare and Constantin Paul have great confidence in *drosera rotundifolia*. During the first period, for the bronchitis they recommend bryonia; during the second, as a sedative to the cough, the drosera, (1 to 5 grammes—*M*xv-lxxv—of the tincture). M. Louvet-Lamare recommends, besides the muriate of ammonia in the daily dose of half a gramme (7½ grains) for a child seven years of age, when there arises, as frequently occurs, that inflammation limited to the lower part of the pharynx, the larynx, or upper part of the trachea, causing the thermometer to rise to 38°5 or 39° (101°-102° Fahr.) and characterized by a harrowing cough, without any new sign occurring in the chest.—*Lyon Médical.*

TRANSVERSE LINES ON THE SURFACE OF THE NAILS AFTER DISTURBANCES OF GENERAL HEALTH.—Mr. J. Hutchinson says, in the *Medical Times and Gazette*—It has been observed that during febrile ailments and various other more or less acute derangements of health, the nutrition of the nail suffers. A record of each relapse or excerbation, permanent during the life of the nail, is left on its surface in the form of a transverse furrow. As the age of an oyster may be reckoned by counting the ridges on its convex shell, so in these cases may the number of relapses and the relative duration of the intervals be estimated. Dr. Wilks, in his original short article on this subject (*Lancet*, January 2nd, 1869, page 5), infers, from the known rate of growth of the nail being equal to two full lengths a year, that furrows on the middle of the nail indicate an illness three months before.

CITRATE AND BROMHYDRATE OF CAFFEINE.—At a recent meeting of the Société de Thérapeutique in Paris, M. Gubler pointed out the diuretic properties of citrate and bromhydrate of caffeine, in doses of fifty *centigrammes* (seven grains and a half), in the form of hypodermic injection. The diuretic effect is almost immediately produced, whilst with digitalis it is delayed for two or three days. Caffeine may be given as a draught for the same purpose, in doses of thirty *centigrammes* (four grains and a half). Caffeine increases the vascular tension less than digitalis does. The maximum action of digitalis is reached on the fourth or fifth day; and, if the administration of digitalis be prolonged, an accumulation of action is produced—that is to say, an opposite result to that desired. M. Gubler generally prescribes the alcoholic tincture, in doses of twenty drops. If the kidneys do not yield to the action of this remedy, M. Gubler pronounces them to be incapacitated for use.—*British Medical Journal.*

From *Le Progrès Médical.*

EFFECTS OF PURGATIVES ON INTESTINAL SECRETION AND EXCRETION.—At the *Société Biologie*, on the 8th day of June, M. Leven narrated the result of his investigations into the functions of the intestines. Experiments formerly made are defective in this respect, that the opening of the abdomen and the manipulation of the viscera modified the physiological conditions. M. Leven studied the secretions and excretions after the administration of purgative substances. Salts, notably the sulphate of magnesia, do not give rise to secretion, but to the excretion of a neutral liquid, rich in chloride of sodium, and free from albumen. With castor oil, on the contrary, the liquid is albuminous. Charcoal, improperly regarded as a mechanical purgative, gives rise neither to secretion nor excretion. Lastly, after the administration of drastics, the intestinal liquid, rich in chloride of sodium and in albumen, contains besides an enormous quantity of leucocytes, which afford evidence of active inflammation.

"The sulphate of magnesia produces excretion, but not secretion; no albumen is found in the excreted products. The purgatives, improperly called mechanical, such as castor oil, produce a liquid charged with albumen in rather large quantity, and with chloride of sodium. Drastics produce an aqueous liquid charged with chloride of sodium, and with albumen in double or treble the quantity of that from castor oil, and containing besides an enormous quantity of leucocytes."—*Gaz. des Hôp.*

THE METRIC SYSTEM IN MEDICINE.

	Gms.
M, i. or gr. i. equals	06
ʒi. or ʒi. "	4
℥i. or ℥i. "	32

The decimal *line* instead of *points* makes errors impossible.

C.C. used for gms. causes an error of 5 per cent. (excess.)

A teaspoon is 5 gms.; a tablespoon, 20 gms.

EQUIVALENTS.

Troy Weight.	Grams.	Troy Weight.	Grams.	Troy Weight.	Grams.
Grain 1-60	.001	Grains 12	.78	Grains 200	12.96
" 1-30	.002	" 15	.97	" 240	15.55
" 1-20	.003	" 16	1.04	Drachms 6	23.3
" 1-16	.004	" 18	1.17	" 8	31.1
" 1-12	.005	" 20	1.29	" 10	38.9
" 1-10	.006	" 24	1.55	" 12	46.6
" 1-8	.008	" 30	1.94	" 14	54.4
" 1-6	.011	" 36	2.33	" 16	62.2
" 1-4	.016	" 40	2.59	" 20	77.7
" 1-3	.022	" 50	3.24	" 24	93.
" 1-2	.032	" 60	3.89	Ounces 4	124.
" 1	.065	" 80	5.18	" 5	155.
" 2	.13	" 90	5.83	" 6	186.
" 3	.19	" 96	6.22	" 7	217.
" 4	.26	" 100	6.48	" 8	248.
" 5	.32	" 120	7.75	" 9	279.
" 6	.39	" 150	9.72	" 10	311.
" 8	.52	" 160	10.37	" 12	372.
" 10	.65	" 180	11.66	" 16	496.

Pamphlets and circulars discussing and explaining the metric system can be had free, or will be mailed on receipt of postage.—*From Metric Bureau, Boston.*

Two Remarkable Accidents.—In the transactions of the Medical Society of New Jersey, for 1877, Dr. Ryerson reports the case of a child which lived four weeks with over an inch of No. 1 sewing needle in the heart. Search for the needle before death was unsuccessful. At the autopsy it was found to have passed partially through the cartilage of the fourth rib, into the wall of the right ventricle. Pus welled up through the perforated cartilage, and loose in an abscess holding an ounce or more of pus, in the muscular substance, lay the needle. It was supposed that until loosened by suppuration the broken end of the needle remained fixed in the rib, thus pinning the heart to the chest wall. A still more remarkable accident, with recovery, is reported in the Transactions of the Medical Society of Pennsylvania, for the same year. In this case a boy of fourteen was impaled on the end of a carriage shaft, the point of the shaft entering one inch below the left nipple and coming out at the back. The victim was swung three times into the air by the rearing of the horses, then pushed himself off, and walked home with some assistance. No cough or hemoptysis followed and apparently little shock. Effusion into the pleura occurred with discharge of pus, front and back. This gradually lessened, and finally both wounds closed, the one in the breast last. The boy has recovered robust health.—*Clinic.*

Births, Marriages, and Deaths.

BIRTHS.

At Toronto, on Sunday, July 9th, the wife of Dr. W. W. Geikie, of a son.

MARRIAGES.

At Invermara, Orillia, on July 2nd, K. N. Fenwick, M.D., Kingston, to Tina Laura, youngest daughter of Robert Stirling, Esq.

On June 19th, at Cornwall, Sandford McVittie Lloyd, to Mary Beatrice, second daughter of J. L. Dickinson, M.D.

On the 3rd inst., at the residence of the bride's mother, Riverside House, Harwich, by the Rev. J. Wakefield, George A. Tye, M.D., of Thamesville, to Louisa McIntyre.