

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.

- Additional comments /
Commentaires supplémentaires:

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression

- Includes supplementary materials /
Comprend du matériel supplémentaire

- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.

The Northern Lancet.

Glean from the journals of the World all that is new in Medicine, Surgery and Pharmacy, placing monthly before its readers in a condensed form Medical, Surgical, Obstetrical and Pharmaceutical advances in both hemispheres.

WINNIPEG, FEBRUARY, 1890.

DISLOCATION OF BOTH SHOULDERS TREATED BY OPERATION.

BY SIR JOSEPH LISTER, BART., F.R.S.

Professor of Clinical Surgery in King's College.

Delivered before the Hunterian Society.

I once had the terrible misfortune of causing the death of a patient from rupture of the axillary artery in an attempt to reduce a dislocation of the shoulder. In January, 1873, a man fifty-eight years old presented himself at the Royal Infirmary of Edinburgh with the symptoms of an ordinary subcoracoid luxation, which he said had been caused by a fall five weeks and a half previously. I afterwards learned that eight weeks had really elapsed since the accident. Having no reason to doubt his word, I proceeded to make free but not at all violent movements, first with manipulation and then with the pulleys. Not succeeding in these attempts, I decided to wait a day or two in the hope of a more favorable state from softening of the textures through irritation by the first trial. I had scarcely expressed this determination when my attention was directed to an enormous swelling below and behind the axilla, almost as big as a man's head, doubtless due to rapid extravasation of blood. No pulse was to be felt at that wrist, implying that the bleeding proceeded from the main vessel. I cut down at once the axilla and turned out a mass of clots, and as nothing appeared wrong with the lower part of the vessel except absence of pulsation, I divided both pectoral muscles up to the collarbone, so as to obtain access to the upper part of the axillary artery. I then discovered an orifice about one-sixth of an inch in diameter in the posterior part of the wall of the vessel in that region. Having tied

the vessel above and below this orifice, I took off the head of the bone so as to enable me to place the humerus in its normal position, and left the patient, though considerably reduced, chiefly by the extravasation that had occurred before I operated, in hopes of a satisfactory result. He rallied for a while, but sank about three hours later. On post-mortem examination we found that the surface upon which the head of the bone had rested in its new situation simulated cartilage in smoothness and firmness, and was formed of a dense fibrous structure strengthened with a considerable amount of osseous deposit in the form of spicula, proceeding chiefly, though not exclusively, from the coracoid process and the surgical neck of the humerus. A broad and strong fibro-osseous band, thus connecting the humerus with the coracoid process, had lain over the head of the bone and at the same time was intimately connected throughout by condensed tissue with the sheath of the axillary artery which lay over it. Thus the vessel, instead of being surrounded by loose and yielding structures, as in the natural state, was attached through the medium of the osteo-fibrous band to the coracoid process on the one hand, and the neck of the humerus on the other; and when these were separated from one another by the attempts at reduction, the artery, as well as the band, was necessarily subjected to violent traction. Accordingly the band, strong as it was, was found to have been torn right across, and the rent in it was exactly opposite to the rupture in the artery. An atheromatous condition of the vessel served to explain still further the disaster. The knowledge of the fact that a condition thus strongly predisposing the axillary artery to injury, when traction was made upon the humerus, might be developed within eight weeks of the occurrence of the luxation, has ever since made me feel a great horror at attempts at reduction of long-standing subcoracoid dislocation. Accordingly in the cases which I have now to relate I determined to adopt what I hoped would prove a safer mode of procedure.

Thomas C——, a robust laborer, forty-seven years of age, was engaged on April 17th, 1887, in felling trees; and having

climbed up one, fell a distance of forty feet on his outstretched arms, producing subcoracoid luxation of both shoulders. The dislocations remained unreduced, and eight weeks after the accident he was sent to King's College Hospital for relief. On admission both limbs presented the usual characters of subcoracoid dislocation. He was in a very helpless state, unable to dress himself, with the arms almost fixed in a slightly abducted position, and rotation very limited, particularly on the right side. He occasionally experienced numbness and venous congestion in the hands and arms. After considering for a few days what course it would be best to adopt, I proceeded on June 13th, nine weeks and a half after the accident, to operate on the left side in the following manner. Having made an incision from the coracoid process downwards and somewhat outwards in the interval between the deltoid and the pectoralis major, I divided the tendon of the subscapularis muscle at its insertion, and then with a periosteum-detacher proceeded to separate the soft parts from the head of the bone and the inner part of its neck. This having been done, so as to make sure that the vessels were entirely detached from the bone, I applied the pulleys in a manner which I need not describe in detail. As the pulleys dragged on the humerus, some fibrous bands were felt to be put on the stretch, and these were divided. The head of the bone still refusing to return to its normal position, the bone was more completely cleared, and the pulleys were again applied. This failing, the head of the bone was protruded through the wound as if for its resection, the external rotators being cut through at their insertions; after which the pulleys were again employed, the direction of the traction being altered from time to time by changing the position of the operating table. The pulleys were then suddenly relaxed by pulling on a slip-knot arranged for the purpose, and at the same moment rotation outwards and adduction of the limb were performed. The head of the humerus was thus brought nearer to the glenoid cavity; it went still nearer on a second attempt of the same description, and at a third the head of the bone slipped into its normal

place. I need not describe the patient's progress during the first few days further than to say that all went on favorably as regards the state of the wound and his general condition. Such being the case, on the following week I proceeded to operate on the other shoulder in a similar manner, except that, guided by our experience on the left side, I here at once protruded the head of the bone, dividing the attachments of all the rotators. In this instance, at the second attempt, the pulleys drew the bone into its proper position. The wound on this side, as on the other, remained without disturbance. On Aug. 3rd the patient put on his coat and waistcoat unaided for the first time after the accident. The movements were continually improving. There was never any suppuration from within, either on the right side or on the left; but the passive motion which we maintained seemed to keep up a serous oozing from the interior, and it was nearly two months before the wound on the right side was perfectly cicatrised. On Aug. 22nd, the day after healing was complete, the patient was discharged. On Nov. 2nd, two months later, he came to the hospital for inspection. The arms could then be raised to a right angle with only slight movement of the scapula; and rotation was much improved. Some stiffness of the upper arms in the region of the biceps was observed, more marked on the right side than on the left; other movements were normal. Of his present condition you will be able to judge for yourselves as he has kindly given us the opportunity of seeing him here this evening. [*The patient was now introduced.*] You see that the shoulders have their natural rounded form. You are aware of course, that the rounded form of the shoulder depends partly on the head of the bone being in its proper place, and partly on the deltoid having its due development. Here we have on each side a massive deltoid over the bone *in situ*. [The patient stated that he could do any hard agricultural work as well as ever. He exhibited all the natural movements of the arms in their normal degree, except elevation of the limb, which he could not do far above the horizontal level. He said, however, that he still found an

improvement in this respect going on, so that he could lift, for instance, a key from the top of a clock for the purpose of winding it up, which he could not do a few months ago.]

This, gentelman, was the first case of double dislocation of the shoulder that I happened to have seen, and strangely enough before this man left the hospital another example of the same thing made its appearance, due to a very different cause.

Charles D—, twenty-three years of age, was admitted into King's College Hospital on July 26th 1887. Seven months before his admission the patient, who was an epileptic, dislocated both shoulders in an epileptic fit. He was sent to my colleague, Dr. Ferrier, with a view to the treatment of his epilepsy. Dr. Ferrier, however, found that there was not much that he could do for him, but thought it possible that I might be able to help him with regard to the state of the shoulders. Both humeri were found to have been dislocated in the subcoracoid position. There was considerable movement of the limbs due to the fact that the scapulæ moved with extraordinary freedom along with the humeri. Nevertheless he was in a pitiable condition. He could not dress himself, he could not put his hands to the gluteal region, and I need not say what a state of miserable dependence that fact implied. The muscles, especially those of rotation, were extremely atrophied. There were remarkable hollows above and below the spines of the scapulæ; so much so that some medical men who saw him doubted whether such extreme atrophy of the muscles could be explained by mere disuse. Encouraged by the case you have just seen, I determined to attempt to relieve him by operation. On July 29th I operated on the left shoulder in the same manner as on the former patient. The soft part having been completely detached, from the upper end of the humerus, the pulleys were applied, when the head of the bone returned into position at the first attempt. As regards the after progress I need not go into details. Passive motion was begun thirteen days after the operation, but we found in this case that there was a remarkable

tendency to the occurrence of adhesions, making movements extremely difficult. We put him twice under chloroform, and moved the limb under the anæsthetic. The wound healed in six weeks without any suppuration, except from the surface of the granulations; but the recovery of power was so extremely slow that for a while I feared that no good would result from what we had done. In course of time, however, under the influence of passive movement and massage, together with galvanism, he improved so much that at length he besought me to operate upon the other side also. He could now dress himself, and he was no longer in the state of miserable dependence to which I before referred. He could also lie upon that side, a thing which he could not do before the operation, and he wished that the other limb should be as favorably circumstanced.

But six months more had elapsed after the first operation, and the result of that procedure, although distinctly successful, had not hitherto been by any means brilliant, and I decided that in this case instead of detaching the soft parts from the end of the humerus, and attempting reduction, I would merely cut down upon the head of the bone and remove it piecemeal by chisel and hammer without disturbance of the attachments of the external rotators. For a study of the skeleton with the humerus in the subcoracoid position had shown me that the removal of the articular portion, without interfering with the tuberosities, would allow the bone to drop back into relation with the glenoid cavity. This was done on Jan. 27th, 1888, and the immediate result entirely answered my expectations. The bone went readily into its place, as I anticipated, and, the wound following the usual aseptic course, the recovery of movement was in the first instance much more rapid than it had been on the other side; and on March 22nd he was in a condition to leave the hospital. I afterwards had reason to regret that I had not followed the same course on the right side as on the left. On June 12th, 1888, he came to show himself; both arms were continuing to improve in strength, but the left was now considerably stronger than the right, and its movements more

perfect. He could put both hands behind his back ; but with the left he could touch the angle of the other scapula, whereas with the right he could only reach as high as the top of the sacrum. He also complained of some pain in the thumb and elbow of the right side, that on which the head of the bone had been removed ; while there was no uneasiness whatever on the left side, where the bone had been left intact. I should have been glad if this patient could have presented himself here this evening, but on inquiry I learn he has gone to America. His brother writes as follows : "In the absence of my brother, I beg to acknowledge the receipt of your letter of the 22nd inst. He sailed for America in June last, where he is working on a farm, and I am thankful to say is enjoying good health. After he came home he had several fits, neither of which appears to have hurt his shoulders ; but for some three months before he went, and since he has been abroad, they have not returned." That is a happy result, which I am afraid we can hardly attribute to our surgical procedures. "Before he went he had nearly gained full use of his arms and shoulders, the only difference being that he could not raise them in a horizontal position above the shoulder. By slightly bending his head and raising his hand from the elbow-joint he could brush his hair and remove his hat, and he tells us he thinks they still get a little stronger ; but from the fact that he is able to earn his living on the farm by very hard manual labor, the operation must be considered a grand success."

Now, gentlemen, it seems to me that the result of these two cases is encouraging to us to adopt a similar course in other cases of old subcoracoid dislocation of the shoulder. In the man who has presented himself before you the attachments of all the rotators to the tuberosities of the humerus were divided, and yet you saw that they had completely re-formed—rotation is perfect, both external and internal. And in the other patient, although the dislocation had been of so much longer standing, the use of the previously wasted rotators has been completely restored. I would advise that when the surgeon feels in doubt as to whether it is prudent to

make attempts at reduction, or when such attempts do not succeed, he should in the first place cut down upon the bone by the usual incision, from the coracoid process downwards and a little outwards, and then with a curved periosteum-detacher freely separate the soft parts from the inner side of the upper end of the humerus. You will then be sure that no damage will be done to the axillary vessels in any manipulations that you may make. In many cases you will doubtless succeed by this means ; but if this fails, then these instances show that you may proceed to turn out the head of the bone, detaching the insertions of the rotator muscles ; and then in all probability you will be able to effect reduction, and after reduction you will have a thoroughly useful limb. Should even this procedure fail, removal of the head of the bone remains open to us, with promise of a good, though inferior, result.

Mr. President, I have hitherto felt considerable hesitation in publishing cases in which the safety and success of an operation are essentially dependent upon strict antiseptic management ; and my principal efforts for some years past have been directed to an endeavor to procure, if possible, greater simplicity and at the same time greater efficacy in our antiseptic methods. At a recent meeting of the Medical Society I brought forward a kind of dressing which I believe will prove more satisfactory than any which has been hitherto employed. For the successful antiseptic treatment of a wound two essential points are of course necessary. In the first place, we should proceed so as to leave nothing septic in the wound before we apply the dressing, and in the second place we should put on such a dressing as we can thoroughly trust to keep out septic mischief until that dressing shall be changed. I had intended to bring before you this evening some points with regard to the former of these objects—the means by which the wound can be kept aseptic till the conclusion of the operation ; but since the communication that I made to the Medical Society, I have been led to make further investigation into some matters regarding the use of the materials I then described, which seem to me of sufficient importance and interest to

warrant me in taking this opportunity of bringing them before you. The material, I may remind you, is a sort of double salt, an amorphous powder, insoluble in water, composed of cyanide of mercury in combination with cyanide of zinc. It does not seem to be a true double cyanide, inasmuch as the proportion of the mercurial element is considerably less than that which should be in a true double salt; nevertheless, the mercurial element, as I have found, is of essential importance to the full antiseptic efficacy of the material. It was necessary that this powder, if introduced into a gauze or other fabric, should be fixed so as to prevent it from dusting out; for it is highly irritating to the nostrils, and besides, if it dusted out, the dressing charged with it would lose more and more of its virtues. I described at the Medical Society a means by which this was prevented; how by the use of starch the powder might be fixed in any fabric which was charged with it. But I have long felt that it would be an exceedingly desirable thing if this material could in some way be colored, because, being perfectly colorless, if a gauze is charged with it, we have to trust entirely to the manufacturer as to whether the antiseptic element is present in due proportion or is not. It would be very advantageous if it could be colored, so that we might see by the tint where the antiseptic substance was, and whether it was uniformly distributed or otherwise. Therefore, before publishing the note which I had promised as to the preparation of the substance, I made attempts to stain this material. I tried various forms of dye, and I found that some of the aniline dyes are precipitated by this zinc-mercuric cyanide and some are not. For instance, magenta is not precipitated in the least, but methyl-aniline violet and gentian violet, which seems to be a mere variety of the same thing,—these are precipitated, and an exceedingly small amount of the dye is sufficient to give adequate color to the double cyanide. I proceeded to charge a piece of gauze with some of this dyed cyanide, to see how it would tint it; and when it was dry I was much surprised to find that the gauze charged with the tinted cyanide did not

dust in anything like the same degree as a gauze would have done which had received the untinted salt; so much so that a gauze charged with the tinted cyanide was very much on a par as to dusting with the gauze charged by means of starch.

Of course, if this were so, it would be a very satisfactory arrangement; we should dispense with the starch and also with a quantity of sulphate of potash which was used for purposes that I need not here refer to; we should greatly simplify the method of manufacture, and also, by getting rid of the starch, we should make our gauze softer and more comfortable to the patient. It seems a remarkable thing that the dye should thus be able to fix the powder. Of course, we understand how the starch does it. The starch particles, becoming attached to the particles of the cyanide, glue them, as it were, to the fibres of the fabric. But how can we explain this dye, in the minute quantity in which we use it, answering the same purpose? I have here some gentian violet dissolved in 50,000 parts of water, and you see the great coloring power that this dye possesses. If I take a piece of gauze and dip it into the solution up to a certain point, you will see the gauze colored up to that point, but the part that is moistened above by capillary attraction is colorless, showing the avidity with which the fabric seizes the dye. The dye has a remarkable fondness for the fabric; at the same time it is attached to the cyanide, for it is precipitated by it. We can thus understand that the dye may act as a go-between, attaching the cyanide to the fabric by virtue of its affinity for the fabric on the one hand and for the particles of the cyanide on the other. The mode of attachment is altogether different from that by starch, but the thing is done nevertheless. It seems to me astonishing that the dye should have this power. The quantity of gentian violet used is exceedingly small. We take, say, twenty grains of the salt, and diffuse it in sixteen ounces of a liquid containing only $\frac{1}{10000}$ th part of the dye, draw a piece of the fabric through it, and so charge it with the requisite amount of the cyanide. If now we consider what proportion the gentian violet bears to the

cyanide which it fixes, we find that there is only about one grain of the dye to 140 grains of the salt. But more than that, the molecule, the atom of the dye, is an exceedingly complex and heavy one; so that if we consider how many there are in comparison with the atoms of the cyanide which it fixes, we find that there is only one molecule of the dye to nearly 600 molecules of the cyanide salt. It is simply wonderful that each molecule of the dye should have the power of fixing such a multitude of other molecules. It seems another instance of what I have ventured to call solid solution. It is not a chemical combination; it is not a combination of one atom with one atom, but it is an attachment of one molecule with a multitude of other molecules. I have often contemplated with amazement the familiar fact of the solution of a soluble salt in water. Put a bit of common salt into a tumbler of water, and, as everybody knows, it will be quite uniformly distributed in a second or two. This marvellous fact implies that every molecule of the chloride of sodium has an area of a multitude of molecules of water in relation to it. If there were not the arrangement of a definite number of molecules of water round every molecule of chloride of sodium, there would not be an equable solution. So, I conceive, on the same sort of principle, without chemical combination, this dye influences a multitude of particles of cyanide in its vicinity. Here is a piece of gauze charged in the way I have described and you notice its delicate violet tint; and we have the satisfaction of knowing that, wherever we see the dye, there is the antiseptic salt. You also observe that, when freely handled, it does not dust materially. Thus we have the two advantages combined, one of which I had not hoped for—that while we have the material dyed so as to show its presence by its tint, it is also prevented from dusting.

Note.—After the above paper had been read, I was mortified to find that some gauze charged by aid of gentian violet dusted to a very inconvenient degree. This appeared to be due to the influence

of the bichloride of mercury, which was used in weak solution (1 part to 4,000) along with the gentian violet in the water in which the cyanide salt was diffused. Bichloride of mercury interferes, to a certain extent, with the precipitation of the gentian violet, and leaving some of the dye in solution, causes tinting of the gauze independently of the presence of the cyanide salt, and at the same time it impairs the efficacy of the dye in fixing the salt to the fabric. Yet the use of the bichloride of mercury is a matter of great importance, for reasons which I have given elsewhere, and it became necessary to look for some other dye on which the bichloride might not exert this prejudicial influence. I have found that there are several colouring matters which answer the purpose fairly well. Thus both carmine and prussian blue attach the cyanide salt to a cotton fabric perfectly so long as it is moist, but when it is thoroughly dry they are not very good as regards the question of dusting. The dye which I have found to comply best with all the requisite conditions is logwood, or rather the essential ingredient of logwood—*hæmatoxylin*, which is a definite crystalline substance, and not unduly expensive.

The manner in which I have found it best to use this substance is the following. It is incomparably better to apply it to the freshly precipitated and wet cyanide than to mix it with the salt after its particles have been aggregated in the process of drying. It may be well to mention here the manner in which the cyanide is prepared. Cyanide of potassium, cyanide of mercury, and sulphate of zinc are mixed together in solution in quantities proportioned to the atomic weights of 2KCy , Hg_2O_2 , and $\text{ZnSO}_4 + 7\text{H}_2\text{O}$; the cyanide of potassium and cyanide of mercury being dissolved together in $1\frac{1}{2}$ oz. of water for every 100 grs. of potassium cyanide, and added to the sulphate of zinc dissolved in three times that amount of water. The precipitate is collected on a strainer, and when well drained is washed with two successive portions of water, equal in quantity to that used for the solutions—viz, 6oz for 100 grs. of potassium cyanide; at least this amount of

washing being essential in order to free the precipitate sufficiently from the highly irritating soluble salts which are associated with its formation. The precipitate having been thus washed and drained, but not dried, it is thoroughly diffused with pestle and mortar in distilled water (6 oz. for every 100 grs. of potassium cyanide), containing in solution 1 part of hæmatoxylin for every 100 parts of the cyanide salt, the amount of which is known from the circumstance that the dry product of cyanide salt is almost exactly equal in weight to the potassium cyanide employed. Hæmatoxylin is readily soluble in a small quantity of hot water and remains in solution when added to a large quantity of cold water. The cyanide salt, while it precipitates the hæmatoxylin changes its colour to a pale bluish tint. This is advantageously enhanced by the addition of a little ammonia to the mixture in the proportion of one atom of ammonia ($\text{NH}_3 = 17$) to each atom of hæmatoxylin ($\text{C}_{16}\text{H}_{14}\text{O}_6 \cdot 3\text{H}_2\text{O} = 356$). More than this proves prejudicial. The ammonia is added in a dilute form, and it is convenient to have the dilution such that one fluid drachm of the ammoniacal liquid shall correspond to one grain of hæmatoxylin. The dye is further economised by allowing the ammoniated mixture to stand for three or four hours and stirring it occasionally, so that the ingredients may react thoroughly upon each other. If the mixture is filtered immediately there is considerable loss of colouring matter. The dyed salt having been drained and dried at a moderate heat is levigated, and may then be kept for any length of time fit for use. When employed for charging a dressing, it is diffused by means of pestle and mortar in solution of bichloride of mercury (1 to 4,000) is sufficient abundance to drench the fabric thoroughly, for which 4 imperial pints to 100 grs. of the salt will be found adequate. This will give a percentage of between 2 and 3 of the cyanide to the dry gauze. For reasons which I have stated elsewhere, the gauze should always be used moist; and if it be prepared for immediate use, as by the dispenser of a hospital, the process of drying

may be omitted, the gauze, after being hung up for a while to drain, being deprived further of superfluous moisture by placing it for a while in a folded sheet. It may afterwards be conveniently kept moist by wrapping it in a piece of mackintosh cloth. When obtained dry from the manufacturer, it should be moistened again with the weak corrosive sublimate solution before it is used.

ŒSOPHAGOTOMY FOR THE REMOVAL OF FOREIGN BODIES.

BY F. A. SOUTHAM, M.B., OXON., F.R.C.S.,
Surgeon to the Manchester Royal Infirmary.

Œsophagotomy for the removal of a foreign body impacted in the gullet is an operation of comparatively rare occurrence. Having, however, been recently called upon to perform it on two patients, who by a strange coincidence were admitted into the hospital within a period of twenty-four hours, each with a tooth-plate firmly fixed in the œsophagus, an account of the cases, with some brief remarks on the operation and its after-treatment, may perhaps be useful.

CASE 1.—Alice G—, aged thirty years, was admitted on the afternoon of June 12th, 1889, having accidentally swallowed a tooth-plate while at breakfast the same morning. On examination by Mr. Milner, resident surgical officer, the plate was found to be beyond the reach of the fingers, but it could be felt with an œsophageal bougie at a distance of about eight inches from the teeth, though it could be easily laid hold of with the œsophageal forceps, and also caught in a "coin-catcher," attempts to extract it through the mouth, both with and without an anæsthetic, were unsuccessful. An emetic having also failed to dislodge it, I was sent for to see her the same evening, with a view to the performance of œsophagotomy. The patient was again anæsthetised, and a final attempt at extraction having proved unsuccessful, the operation was at once performed. An incision about three inches in length, commencing below at the sterno-clavicular joint, was made along the anterior border of the left sterno-

mastoid. The cervical fascia having been divided, and the omo-hyoid separated from the sterno-hyoid and sterno-thyroid, the left lobe of the thyroid gland, which was considerably enlarged, was drawn upwards and inwards with a retractor. The sterno-mastoid and carotid sheath were then drawn outwards, and the œsophagus was exposed at the bottom of the wound; the foreign body, which could be felt with the finger just below the cricoid cartilage, after the superficial structures were divided, forming a good guide to it. A small vertical opening having been made into the œsophagus, the foreign body was seized with a pair of forceps and extracted without much trouble. The superficial wound was closed with silver sutures except at its lower part, in which a drainage tube was inserted sufficiently long to reach down to the opening in the œsophagus, no attempt being made to close the latter. The plate, which was composed of vulcanite, measured $1\frac{1}{2}$ in. by 1 in.; attached to it were three teeth and a metallic hook $\frac{3}{4}$ in. in length. For the first fortnight after the operation the patient was fed entirely by nutrient enemata, which were all retained. Nothing was given by the mouth except a little ice to suck and a boracic acid mixture (ten grains to the ounce) in ounce doses every four hours. By these means the thirst was relieved and the wound, from which there was a free and constant discharge of frothy muco-purulent fluid, was kept sweet and clean, for all the boracic mixture escaped through it, washing it out from the bottom. The wound itself was dressed and syringed out with boracic lotion every four or six hours, according to the amount of the discharge, which after the first week became less day by day and at the end of a fortnight was very slight. The enemata were then discontinued, and the patient was henceforth fed through a soft tube introduced into the stomach through the mouth. The passage of the tube was so easy and painless that, after the second day, the patient was able to introduce it herself, and afterwards did so every four hours. On the twenty-fifth day, as the deep wound was almost closed, only a few drops of fluid escaping when the boracic mixture was

taken, the tube was discontinued and she was allowed to swallow milk. On the thirty-sixth day no fluid whatever escaped, showing that the œsophageal opening was quite closed. On the thirty-eighth day she left the hospital, being able to swallow fluids and jelly without pain or difficulty. The external wound was quite healed except at its lower part, where there was a small superficial patch of granulation tissue. A fortnight later, when she came as an out-patient, the wound was soundly healed, and she stated that for some days she had been taking solid food, deglutition being perfect and quite painless.

CASE 2.—John M——, aged twenty-three years, was admitted on the morning of June 13th, 1889, having accidentally swallowed a tooth-plate four days previously. Attempts to extract it through the mouth before coming to the hospital, and also in the accident room by Mr. Milner, resident surgical officer, having proved unsuccessful, he was advised to come into the infirmary for the purpose of having it removed by operation. Shortly after admission he was anaesthetised, and before proceeding to œsophagotomy a final attempt was made to extract the plate through the mouth. On passing a bougie the foreign body, which was beyond the reach of the longest œsophageal forceps, could be felt at a distance of about twelve inches from the teeth. It could be readily caught hold of with a "coin-catcher," but all attempts to withdraw it failed. Œsophagotomy was, therefore, at once performed in the same way as in the last case. The exposure of the gullet was, however, much more difficult, for the foreign body, being situated much lower down, could not be felt with the finger at the bottom of the wound, and therefore did not serve as a guide. An attempt was made to push the œsophagus forwards into the wound by means of long curved forceps, and also with a sound introduced through the mouth, but both these plans failed on account of the thickness of the patient's neck. A full-sized bougie was then passed, and by cutting upon this (which could easily be felt with the finger) the gullet was opened as low down as possible—viz., just above the upper border

of the sternum—the left recurrent laryngeal nerve, which was seen on its surface, being drawn over to the left side with a retractor. On exploring the œsophagus with a sound introduced through the wound, the tooth-plate was found to be impacted at a distance of about three inches below the upper border of the sternum; it could just be touched with the tip of the forefinger, when introduced through the wound and passed down the gullet behind the sternum as far as it would reach. Though it could now be easily seized with forceps, it was so firmly impacted that it was at first quite impossible to withdraw it. Attempts were then made to break it up *in situ* by means of bone nippers, bone forceps, and a lithotrite introduced through the wound, but they proved unsuccessful owing to the toughness of the vulcanite composition and the limited space in which the manipulations had to be carried on. It was finally extracted, though not without considerable laceration of the mucous lining of the gullet, by forcibly pulling upon it with a pair of strong forceps and (at the suggestion of Mr. Milner, who was assisting me) by simultaneously working round and round it with a female sound, so as to free it from the œsophageal walls in which the hook and sharp angles of the plate continually caught. The operation lasted an hour and a half, the situation of the foreign body behind the body of the sternum and at a distance below the opening in the œsophagus, which lay at the bottom of a deep wound, readily accounting for the difficulty which was met with. The plate, which was composed of vulcanite, measured one inch and a half by one inch and a quarter; one tooth and a short sharp metallic hook were attached to it. The treatment adopted was the same as in the preceding case—viz., closure of the upper part of the external wound and insertion of a drainage tube at its lower end. The opening in the œsophagus was not sutured, as its margins were much bruised and lacerated. For the first fortnight the patient was fed entirely by nutrient enemata, nothing being given by the mouth except boracic mixture and a little ice. From the fourteenth to the

twenty-first day he was fed by a tube passed through the mouth into the stomach. After the twenty-first day the tube was discontinued, as its passage had on several occasions been followed by hæmorrhage, and he was allowed to swallow milk, nutrient enemata being also given. After the thirtieth day he was fed entirely by the mouth. On the thirty-fifth day the deep part of the wound was entirely closed, no fluid escaping through it. On the forty-sixth day he left the hospital, being able to swallow both fluids and solids without any pain or difficulty, the external wound being almost healed. It is worthy of note that, a few days after the operation, the patient's voice was observed to be somewhat hoarse, and my colleague, Dr. Harris, who examined the larynx shortly before he left the hospital, reported that the left vocal cord was completely paralysed. This would indicate that the left recurrent laryngeal nerve was either injured during the operation or it afterwards became involved in the inflammatory exudation which would be poured out, probably in considerable quantity, in the neighborhood of the wound in the gullet. When the patient was last seen, some weeks subsequently, the wound was firmly cicatrised, deglutition was perfect, and his voice was gradually improving.

The following remarks have been suggested by a consideration of the foregoing cases:—

1. *Question of operative interference.*—

When the foreign body is of considerable size and irregular in shape, as in the case of a tooth plate, and when it is so firmly fixed in the gullet that it resists all attempts at extraction through the mouth, œsophagotomy should at once be performed. If left in the hope that it may make its way onwards and be subsequently passed by the bowel, very serious results are liable to ensue, as Church has shown in a valuable paper published in the St. Bartholomew's Hospital Reports, vol. xix. The foreign body frequently causes ulceration of the œsophagus, and this complication is often followed by suppuration in the surrounding tissues or by fatal hæmorrhage, owing to the ulceration opening one of the adjacent large blood-

vessels. The sooner recourse is had to operative interference, the more favorable will be the result; for if œsophagotomy is performed early—i.e., before inflammation and suppuration have supervened,—the operation is attended by much less risk than if some interval has been allowed to elapse. According to Fische, the mortality is only 15 per cent. when œsophagotomy is performed within the first two days after the introduction of the foreign body; while, if delayed until the third or fourth day, it reaches 20 per cent.

2. *The operation.*—The operation is much easier of performance when the foreign body is situated in the cervical portion of the œsophagus (as in Case 1), and when it can be felt through the walls of the canal, as it forms a projection which can be cut down upon without the necessity of introducing any guide from the mouth. When impacted in the thoracic portion of the canal, and when the opening has to be made as low down as possible (as in Case 2), the exposure and opening of the œsophagus are much more difficult, especially if the neck is thick. Under these circumstances a full-sized bougie introduced through the mouth will probably be found a better guide than a pair of curved forceps or a sound, as usually recommended.

3. *Suture of œsophagus.*—As regards the question of suturing the opening in the œsophagus, this must be decided by the condition of the wound in its walls. If the margins of the wound are clean cut and free from bruising, it may be attempted, fine catgut sutures being employed; and under these circumstances there is a possibility of union at once taking place. If this happens, the wound in the overlying parts will more quickly heal, for the tissues to the neck will be kept free from the irritation of the saliva, which, as it is swallowed, tends to continually escape through the œsophageal opening when the latter is left unclosed. Care must be taken not to include the mucous membrane in the sutures, which should only pass through the muscular coat, for we know that in other parts of the body the divided mucous membrane does not readily unite, and if it becomes everted

so as to fall in between the margins of the wound, its presence will interfere with repair. In most cases, however, it will be found that the œsophageal walls at the point of impaction will have become somewhat bruised and inflamed, the mucous membrane especially be lacerated, in consequence of the foreign body tearing and dragging upon it during the attempts previously made at extraction. Moreover, the actual removal of the body itself, if it is large and irregular, and when effected through a small opening, will be likely to conduce towards the same result. Under these circumstances the œsophageal wound is not likely to heal by primary union, and it was for these reasons that in neither of the preceding cases was suture attempted. This view is supported by a consideration of seven recorded cases where the œsophagus was sutured. In four cases where the foreign body was removed through the wound, it proved unsuccessful. In three cases primary union appears to have taken place, but in only one of these (Wright's) was the foreign body extracted; in Lediard's it was not found at the time of operation, and in Lange's it was pushed onwards into the stomach, so that presumably in both these patients the margins of the opening in the œsophagus would escape the bruising and laceration which usually accompany the extraction of the foreign body, when of considerable size, and especially if sharp and irregular, as in the case of a tooth-plate.

4. *After-treatment.*—Owing to the difficulty of obtaining primary union, even if the œsophagus is sutured, and also of maintaining an aseptic condition of the wound in consequence of the escape of saliva through it, free drainage should be provided for by leaving the superficial wound partly open, and by inserting a tube, which should reach down to the opening in the œsophagus. When there is a copious discharge, as in both my patients, the wound should be syringed out with some antiseptic lotion (e.g., boracic), and the dressings changed frequently. The plan adopted of allowing the patients to frequently swallow small quantities of boracic mixture is, I think, also

useful, for the greater part of the fluid at first escapes through the wound, and in this way thoroughly irrigates it from the bottom; at the same time it relieves the thirst from which the patients suffer, when no liquid food is being given by the mouth. By these means, though the discharge, which consisted of a mixture of frothy saliva and muco-pus, was somewhat profuse, the wound was in both cases kept in a fairly sweet condition, and there was never any tendency to the development of cervical cellulitis, a frequent complication of this operation, and one which is always liable to be attended by serious results.

5. *Administration of food.*—Inasmuch as it is not desirable to give any food by the mouth for some days, the feeding of the patient after œsophagotomy is always a difficult matter. It may be carried out in two ways—viz., nutrient enemata or suppositories may be administered, or food may be introduced directly into the stomach by means of a soft tube passed through the mouth, nose, or wound in the neck. If enemata can be retained by the patient, this method is preferable, for by keeping the wound free from the irritation caused by the passage of a tube, as well as from contact with any food regurgitated by the stomach, the parts are placed in the best condition for healing. In both cases the patients were fed entirely in this way for the first fortnight, the enemata, which were administered every four hours, being well retained, nothing being given by the mouth except boracic mixture and ice, as already mentioned. At the end of this period a tube was passed by the mouth (after the second day by the patients themselves), and at the end of three weeks, when the wound was nearly closed, the tube was discontinued, and the patients were allowed to swallow liquid food. It was then found that very little fluid escaped through the wound, the greater part passing onwards into the stomach; what did escape appeared to cause no irritation, probably owing to the fact that by this time the opening in the neck was converted into a fistulous track lined with a layer of healthy granulation tissue. If the enemata are not retained, food must of course be introduced much

earlier into the stomach, and under these circumstances the passage of a soft tube through the mouth is, I think, for obvious reasons preferable to the method recommended by Markoe of introducing it directly through the wound in the neck.

6.—*Results of operation.*—According to Gross, the number of cases of œsophagotomy recorded up to 1886 is 82; of these, 63 were successful and 19 terminated fatally. Since that date I have found reported in the different journals 14 additional cases, of which 10 were successful and 4 were followed by death. If the two cases above described are included, this will give a total of 98 cases, of which 75 were successful and 23 unsuccessful—that is to say, the operation of œsophagotomy is attended by a mortality of a little less than 25 per cent.

CEREBRAL ABSCESS FOLLOWING INJURY OF THE SKULL.

BY THOS. W. KAY, M.D., SCRANTON, PA.

Formerly Surgeon to the Johanniter Hospital at Beyrout, Syria.

Murcha, age 28, a black male, presented himself at the Johanniter Hospital on the 14th of May, 1888, with the following history:

Two years previous, while engaged in a quarrel near Jaffa, he was struck on the head with a heavy staff and left for dead. He regained consciousness after several hours, and from that time to the present has had no sickness of any kind, nor has he had paralysis or pain in the head.

He was in excellent health when he presented himself, being in full possession of all his mental faculties, and complained only of a offensive discharge from the head, which had been of six months' duration.

Examination revealed three sinuses over the right parietal eminence, and necrosed bone was found at the bottom of all these; so I connected two of them by an incision and removed, by sequestrum forceps, a piece of bone $2\frac{1}{2}$ inches long by $1\frac{1}{4}$ inches broad, consisting of both tables of the parietal bone. As soon as this was done between $1\frac{1}{2}$ and 2 ounces of very offensive brain substance, which had not entirely changed into pus, escaped.

After carefully washing out the cavity, it was dressed antiseptically, and this was renewed every day.

Two days later, several smaller pieces of the internal table were removed, and the cavity left, after the escape of the diseased brain substance was carefully measured. It was found to be elliptical in shape, being $1\frac{1}{2}$ inches long by $1\frac{1}{4}$ inches broad, and 1 inch in depth. The direction of its long axis was represented by a line drawn from the post. inf. angle of the right parietal bone to the middle of its superior border, and its deepest point was just below the parietal eminence.

In a few days healthy granulations had sprung up, and by June 7 the cavity was so nearly filled that the man was allowed to leave the hospital.

It is interesting to note the length of time that elapsed between the receipt of the injury and the appearance of the discharge; and also the entire absence of any paralytic or cerebral symptom after such a large loss of brain substance.

REMOVAL OF SPLEEN.

BY W. K. HATCH, F.R.C.S.

Although this case was a failure as far as the result was concerned, yet there are some points of interest connected with it which makes it worth recording.

Enlarged spleens are common enough in India, but the operation of removal is seldom performed, nor would I press any one to undergo it, although several successful cases have been recorded. The risks are so great that after a proper explanation of them has been given to the patient he may well be left to decide as to whether he is willing to undergo the operation. This patient came into the hospital urgently requesting to have the spleen removed, and therefore took on himself the bulk of the responsibility. At first he was treated in the medical wards by Surgeon Dimrock, but only a very slight improvement took place in his condition. As to when it is advisable to remove a spleen there are no very definite rules as far as I am aware. If, as in this case, the patient's life were made miserable, and medical treatment had given little or no

relief, then I should say it might be considered desirable to operate. No one surgeon has had sufficient experience of these cases to formulate any precise rules as to the choice of cases for operation. I have myself only seen the operation once performed, and that on a man with a very soft spleen. The difficulties of "delivering" such a spleen are very great; certainly a firm, hard spleen is much more easily manipulated, and therefore more favorable for operation. The presence of adhesions cannot easily be diagnosed beforehand; the huge mass always appears unwieldy and more or less fixed above, though the margins may be easily elevated and depressed. In the present instance adhesions to the diaphragm were the direct cause of failure, nor do I see how their presence could have been detected. Apart from the danger of hemorrhage by rupture of the spleen itself, or some of its vessels, the operation cannot be said to have any special dangers greater than those of ovariectomy, for instance; but this danger is so great that it almost negatives the desirability of performing it. Even from the abdominal incision the bleeding is very free, owing to the poor condition of the blood.

The patient, an extremely emaciated Hindoo of about thirty years of age, with the characteristic sallow appearance and flabby condition seen in cases of enlarged spleen, said that about eight months ago he had had fever (quotidian), not preceded by chills, but followed by profuse perspiration. This continued for a month, and then left him; a small swelling then appeared at the left costal margin, which gradually increased, but without pain: the weight caused him considerable inconvenience. Previously to this he had never suffered much from fever, but, being a professional beggar, was a good deal exposed at night, and lived in an unhealthy locality; at one time he had been intemperate in his habits. Had suffered from dysentery and puffiness of the feet and legs from time to time. He was extremely anemic and emaciated, the abdomen looking very large in comparison with the wasted limbs and thorax, the legs œdematous. There was slight bronchitis, also diarrhoea, with blood and

slime in the stools. The conjunctivæ were tinged yellow, and night blindness was complained of. The abdomen was much enlarged, and contained a small amount of fluid; a tumor (the spleen) extended from the left costal margin, and an inch below the umbilicus, and as far as the median line; it was somewhat movable, with a hard and smooth surface; the notch could be felt about an inch above the umbilicus. The tumor was painful, particularly during movement, and the patient himself said that he would rather die than remain burdened with his disease. The liver dulness was normal; the urine contained a slight amount of albumen, but no casts. Heart action weak, but normal. As before stated, the man was first treated in the medical wards, and there was some relief of the abdominal dropsy; the tumor continued painful. Quinine, arsenic, and iodide of potassium were given internally, and mercurial ointment was rubbed over the spleen. After two months of this treatment a very small diminution was recorded; but the man was not satisfied, and begged for removal of the tumor. The dangers of the operation were fully explained, and the patient remained firm in his determination to undergo it, merely stipulating that if he died his body was to be removed by Hindoos. I accordingly undertook to operate, and performed the operation on Aug. 14th, 1888, Surgeon-Major Banks and Surgeon Dimmock being present. A free abdominal incision was made, and the very free oozing stopped before opening the abdominal cavity. When this was done the interior was well illuminated by the electric light and the spleen examined. The hand was then carefully passed round in order to ligature the splenic vessels. While doing this adhesions were felt between the diaphragm and the spleen during their separation, which was most cautiously done. Hemorrhage to an alarming extent suddenly occurred, the ligature was applied as rapidly as possible, but not before a considerable quantity of blood had been lost. The separation and delivery of the spleen were thus completed without difficulty. The peritoneal cavity having been cleansed and the

pedicle inspected, the wound was closed and dressed with dry dressings. A saline injection was introduced into the right basilic vein, as the patient was in a rather critical condition. For a time he rallied, but became again collapsed, and died the same evening. Examination of the spleen showed that it was a suitable one for removal. It was extremely hard, and much pigmented; there were some rents in the capsule where adherent to the diaphragm. Post-mortem examination showed that the pedicle was safely secured; but there had been considerable oozing from the diaphragm, and ten ounces of blood were present in the abdominal cavity. It is not such an easy matter, as would appear from Sir Spencer Well's case, to successfully pass the ligature without causing injury to the vessel or the organ itself, and very great care is required in this procedure. Should such injury occur, the bleeding is not easily controlled.

ON THE TREATMENT OF UTERINE TUMORS BY ELECTRICITY.

BY THOS. KIETH, M.D., LL.D.

Dr. Kieth states that he witnessed the experiments made by Sir J. Y. Simpson. In fact, he administered the chloroform during the operations. In those cases two steel needles the thickness of a No. 6 catheter and eight inches long were thrust fearlessly into the tumor, and the interrupted current turned on and allowed to pass for half an hour. After the treatment two plasters were placed over the openings made by the needles, and the patient allowed to get up and go home. The fatal results of these cases made a very deep impressiou on the doctor, and since those days he has carefully watched the various attempts that have been made to treat fibroid tumors by electricity. He believes that Dr. Kimball and Dr. Cutter certainly cured some of their cases but his early impressiou of the risk of inserting large needles through the peritoneum is too great to think of adopting this method. Dr. Keith has had cases of fibroid tumors under his care every day of his life, and he has tried every known means for their cure, but has only met

with disappointment. Curetting of the uterine cavity is a safe operation, if carefully performed, and it furnishes the best results; but these results are seldom permanent. He considers the only treatment, not surgical, worth speaking of, is the one brought before us by Dr. Apostoli. Dr. Keith first obtained an idea of Apostoli's treatment through Dr. Webb's writings in the *British Medical Journal*. He first sent his son to Paris for some weeks, and he there received the fullest information from Dr. Apostoli. He afterward went himself, and the day he spent at Dr. Apostoli's clinic was a sort of revelation to him. The first two cases he treated were bleeding fibroids, for which he had made arrangements to remove the ovaries, but the results he attained were so satisfactory that he ceased henceforth from doing hysterectomy or even removing the ovaries for bleeding fibroids. The doctor states that just before this, he had found that his rate of mortality in large public hospitals was nearly four times as great as it was in private hospitals and private houses, and he began to try and get some place in which he could put those patients for operations that could not have it done at home or in a more expensive private hospital. One man gave him a house that was capable of holding thirty-five patients, and other friends had agreed to furnish and support it. After all the plans were made, he discovered the efficacy of electricity as applied by Dr. Apostoli, and abandoned the whole scheme, as he would not need it. Dr. Keith says, to the surgeon hysterectomy is a good and simple method. He may have his bad quarter of an hour at the operation, but then he is practically done with the case and he gets his results quickly. If the patient gets well, there is pleasure all around. If things go badly and his patient dies, he bewails his bad luck. Dr. Keith says that if anyone should hold on firmly to hysterectomy it is himself, for his results after it are better than those of any other; he says: "I have, however, thrown over all surgical operations for this new treatment, and the longer I follow it the more am I satisfied." The doctor impresses the great

responsibility on the surgeon who advises hysterectomy. He would as quick think of cutting a woman's throat as to perform hysterectomy for those tumors which give the women no inconvenience. When we consider that these tumors seldom kill the patient, and, at the very best, every four or five die after hysterectomy, Dr. Keith considers that it is humanity to welcome any milder or less dangerous method of treatment that will answer the purpose.—*British Medical Journal*.

INJURY TO THE HAND.

BY C. B. POWELL, M.D., ALBIA, IOWA.

In February, Wm. M. received an injury of the hand while coupling cars. The thumb of the left hand to the first joint was mashed, and the soft parts of index and middle fingers and the fratin were mashed almost to a pulp, yet no bones were broken. The thumb required amputation at the distal joint, but I determined to try to save the fingers, treating them with approved antiseptic appliances, which resulted in the restoration of tissue in its original form, but after all treatment had been discontinued and appliances removed, contraction resulted to that extent that they were entirely useless, contracting and flexing into the palm of the hand. An amputation at the second joint must necessarily be done to make a comparatively useful hand. While antiseptic treatment resulted in preserving the tissues and fingers I am satisfied that a primary amputation in such cases will give decidedly the best results, not having any means to overcome contraction that follows.

In July, Conductor R. came for treatment for a finger having been caught between the bumpers slightly. Upon examination I found that the only injury was that the nail of the middle finger had been peeled off, hanging only by the skin at one side. The wound was cleaned thoroughly and the nail replaced carefully making the remark to him that of course the nail would be lost, but we would replace it as a protection until redressed. An antiseptic dressing of Hydronaphthal

was applied, and he was ordered to return in forty-eight hours for further treatment. At that time, to my astonishment, the parts had united, and the nail firmly fixed in its position and remaining unimpaired and useful, not showing any indication of injury.

REPORT OF TWO CASES OF OVARIAN TUMOR.

BY F. A. LONG, M.D.

In January last, Caroline S., about twenty-two years of age, was operated upon for the removal of an ovarian tumor. Exposure of the internal organs proved the girl to be pregnant. A hypodermic needle was thrust into the uterus on the anterior surface and drew off some amniotic fluid. Three days after closure of the wound the patient gave birth to a seven-months-old fetus, and during the night following she died. The mistaken diagnosis was carefully concealed, as was also the fact that a child had been prematurely born. The girl was buried, and two weeks subsequently an inquest was called for. The post-mortem revealed the true condition of affairs, and the surgeons testified to the facts above given. They further agreed that the girl was apparently of exceptional moral character; that she always strenuously denied that there was any cause for pregnancy, and that in her case all the usual signs and symptoms of pregnancy were absent. It was shown that the girl had not menstruated for seventeen months, the last periodical flow having stopped prematurely on shipboard one and a half years ago.

The verdict of the jury virtually exonerated the surgeons. The friends of the deceased, however, had them arrested and bound over to the district court in the sum of ten thousand dollars each.

A few days after the arrest of the surgeons the brother of the dead girl and her *fiance* met the operator on the highway and shot him, five balls taking effect, one shattering the humerus near the shoulder. Neither the would-be assassins nor the surgeons have had their trials.

CASE 2.—The other case occurred in this county two years ago. A tumor was

diagnosed in a young girl of seventeen years by a young physician in his first year of practice. An operation was advised, consented to by the parents and girl, and with two assistants, members of his graduating class, and in the presence of several other professional gentlemen, who by courtesy were invited to be present, an abdominal section was made and revealed a womb pregnant about five months. This patient died the next night. The assistants took the first train to their respective abodes in Iowa, and the young doctor, whose case it was, in due time left for parts unknown, although a contribution from his pen to the Register in 1888 revealed his presence in Chicago (*italics ours*). In this case it appears that ordinary caution was hardly exercised in diagnosing the nature of the case, for one of the physicians present by courtesy, noticing the conspicuous central location of the enlargement, asked them to take measurements and urged them to desist from the operation, so certain did he feel of a mistaken diagnosis having been made.—*Med. Bulletin, Dec.*

HUMAN TEMPERATURE.

The internal temperature of the human body is higher than that of the surface, usually ranging from 98° to 99° Fahrenheit in moderate climates; in the tropics from 99° to 100°. It is a little higher in the young and very old than in adults; is lower at midnight than during the day; and is influenced a little by long exposure to heat or cold. The blood in the arteries is two or three degrees warmer than the body itself; but that in the veins and right side of the heart is cooler, and the temperature in the right axilla is often a trifle cooler than in the left. It is higher in the rectum and vagina than in the mouth, and higher in the mouth than in the axilla. Any *persistent* deviation from the normal standard of bodily heat signifies disease: a *temporary* deviation indicates disordered function. When the temperature falls below 97°, it means collapse; when it rises above 100°, it shows fever; and when it passes 105°, it represents "hyperpyrexia," and may then even exceed 112°.

Abnormal increase in fever is due to disturbance of the balance between heat-production and heat-expenditure; too much is supplied, through over-oxidation of tissues, and too little is discharged, through diminished circulation in the skin. This disturbance occurs when the nerve-centres have partially lost their control or tension power, whether through disease, injury, or the presence of obnoxious matter, liquid or solid, in the blood. When the nerve-centres lose their control *entirely*, hyperpyrexia ensues, a condition which cannot continue without fatal results, except when transitory and due to paroxysms of malarial fever, or ague. Four-fifths of heat expenditure in man is by way of the skin, one-fifth by the lungs.

The usual symptoms of simple fever, as headache, chills, dry skin, rapid pulse, scanty urine, etc., are caused by the rising temperature, while the various symptoms characteristic of each special fever, are due to either the specific poison or to local inflammation. Continued high temperature soon interferes with the bodily functions, and when associated with the presence of infective material, produces fatty degenerations of various tissues, especially in the heart, liver, kidneys, bloodvessels and voluntary muscles. When the temperature is as high or higher each morning than the preceding evening, the outlook is certainly grave; when it falls every morning it is favorable; yet the severity of a disease may not be always measurable by the degree of bodily heat alone, though it is a safe guide to the amount of accompanying fever. When fever heat is high but the pulse rate proportionately much higher, it indicates failure at the heart.

RANGES OF TEMPERATURE IN DISEASE.

Low temperatures are much less frequent than high, and less fatal; at least two-thirds of mankind die of acute fevers. Low temperatures are registered in cholera, apoplexy, alcoholism, emphysema, asthenia, uremia, urinary extravasation, asphyxia, concussion, hemorrhage, paralysis, opium poisoning; in some states of insanity; in the defervescence of typhus, typhoid and relapsing fevers; in some chronic wasting diseases, as diabetes, and

in "morbus ceruleus" or cyanosis, in which the blood communicates between the auricles, through patency of the foramen ovale, or between the ventricles, through abnormal openings, or other cardiac malformations; in these cases the temperature sometimes stands below 80°.

High temperatures are met with in various diseases, as smallpox, measles, diphtheria; typhoid, typhus, yellow, relapsing, puerperal, hectic and syphilitic fevers; phthisis, tuberculosis, hydrocephalus, peritonitis, catarrhal pneumonia, rabies, tonsillitis, menorrhagia, trichinosis, erysipelas, leucocythemia, retention of urine suppuration, internal abscess and after vaccination. The *highest* temperatures occur in sunstroke, rheumatic and scarlet fevers, lobar pneumonia, tetanus, injuries to the brain and spinal cord, and during paroxysms of malarial fever and ague. They are apt to range above 105°, and when persistent, always have a fatal ending.—*Medical World.*

REMOVAL OF THE ENTIRE SHAFT OF THE FEMUR, WITH GOOD RECOVERY.

BY J. J. JONES, M.D., FROSTBURG, MD.

On July 27, 1889, I was called to see a child two years of age, whom I found restless, with slight elevation of temperature for which I could assign no cause at the time. His temperature increased to 104½° F. by the fifth day, when it was discovered that the child could not move its right leg without evidence of pain, and on close examination a slight amount of swelling extending over the whole length of the thigh was noticeable. There was no history of injury. Salicylate of soda and antifebrin were alternately used to control his fever, and the leg was kept on a cushion slightly flexed and elevated. The swelling, however, kept on steadily increasing, though the fever disappeared about the end of the second week, and the patient was comparatively free from pain as long as he was allowed to remain undisturbed. As the disease manifested no tendency to localize itself at any particular point, I concluded at the end of the third week to bandage the leg. This

kept the swelling from increasing, but made it more painful. On August 28, I made an effort to detect fluid with the aspirating needle, and as I pressed with my finger on a point at the upper third of the thigh, I felt a grating sensation, and to my great surprise found it possible to bend the leg with the use of but little force, and got crepitus, showing complete destruction of the femur at that point.

I concluded to operate and remove a small portion of the diseased bone and wire the two ends together, giving the child a chance to get well with a leg two or three inches shorter than the opposite limb. I was afraid, however, that the disease extended over the whole length of the shaft of the femur, and therefore tried another plan to save the leg. On September 5, assisted by my friend Dr. Timothy Griffith, I made a long incision down between the rectus and vastus externus muscles, and about a pint of fluid serum and pus escaped.

The whole shaft was found in a necrosed condition, extending from the lesser trochanter down to within one and a half inches of the knee joint. There was nothing left but a shell of bone; evidently the disease had started in the interior of the bone (in the medullary canal), for the marrow had been almost completely destroyed, and there had been more destruction of bone structure on the inside than on the periosteal surface. The periosteum had been separated from the bone with the exception of a few points which were points of insertion of muscles along the *linea aspera*. I succeeded in removing the whole shaft with only slight injury to the periosteum.

After removal of the bone I washed out the cavity, first with a 1-1000, and then a 1-2000 solution of the bichloride of mercury, and then drilled a hole in the stump at the knee, and another through the upper stump at the lesser trochanter, and inserted a strong silver wire extending from one stump to the other, taking care to have the length of the diseased leg correspond with that of the other limb. Between the two strands of silver wire I placed a roll of catgut suture and then poured in around this a large quantity of boracic acid. My object in using

the roll of catgut was to replace the bone removed by something of nearly the same size, and maintain the proper shape of the leg until there would be a new formation of bone substance. I inserted a small drainage tube, sewed up the wound and dressed it in the usual antiseptic way, and applied an anterior felt splint, extending from the ankle to the crest of the ilium, using a bandage round the body to keep the upper part of the splint in position.

The little patient had a good night's rest following the operation. In forty-eight hours I found the dressing wet and removed it, and found a quantity of serous fluid coming from the drainage tube. I irrigated the wound with carbolic acid solution and put on a new dressing. In three days more the same procedure had to be repeated, and at this time, which was five days after the operation, I withdrew the drainage tube and the serous discharge ceased, and everything progressed very satisfactorily. I occasionally removed the dressing to see that everything was in proper shape, as it was almost impossible to prevent the child from shifting the splint more or less to one side or the other. On October 29, I removed the splint and dressing for good. November 17, he was allowed to stand on his leg; and November 26, 1889, he was able to walk on it with considerable ease. The shape appears to be quite perfect, except that the new bone appears to be a little thicker than that of the other leg and half an inch shorter. During the time of treatment the child was given the syr. hypophosphites, and he is now the very picture of health and is able to walk with but little lameness.—*International Journal of Surgery.*

A SOURCE OF PUERPERAL FEVER.—A series of deaths at Limehouse this year shows once again how disease in the accoucheur or midwife may cause puerperal fever. In this instance the midwife was suffering from tertiary syphilitic mischief of the nasal passages. Even so, it is very likely that the infection was conveyed by the fingers, so that if she had thoroughly cleansed her hands and disinfected them by soaking in an efficient antiseptic, no harm would have resulted.

THE NORTHERN LANCET.

Now that the Manitoba University is taking steps to assume those duties as an educating body, which no doubt at its foundation was intended that it should in the future become, it is necessary that the medical faculty of the Province should take into consideration the position they occupy. There exists in Manitoba at present a College of Physicians and Surgeons, supposed to be composed of all the registered practitioners of the Province, who, however, are rarely and then only, in a very perfunctory manner, consulted in any steps the officials of this Institution deem necessary, and we will do these somewhat mythical personages the justice to state that their lethargic normal condition is very cruelly stimulated: they confine themselves exclusively to collecting the registration fee of \$25 which is legally payable so as to enable a medical man to practise in Manitoba, and even this duty is carried out in a most erratic and to the uninitiated unaccountable manner. The majesty of the law is hurled at the heads of some whom it is supposed may be made to pay up readily or who will do so on a little pressure, but others, especially if they be quacks and charlatans, may practice how, when and where they please without remonstrance or interference from these officials. What becomes of the fees so collected? Many would be glad to know. This is the sole duty performed by the College of Physicians and Surgeons of Manitoba. We have then, the Faculty of Physicians and Surgeons of Manitoba, who are the teaching and examining professional body, and lastly there is the University of Manitoba which grants the degrees of medicine and surgery. To any one acquainted with medical education the foregoing statement will be sufficient to show the defects of the present system as regards this Province, and it is now to the interest of every member of the profession practising within the limits of Manitoba or interested in the school here to use their influence to have this crude condition of affairs altered. The time is most

opportune and the transition from chaos to order easily effected. The College of Physicians and Surgeons should become a thing of the past and to the University of Manitoba should be transferred all the legal powers of this body. The Faculty of Physicians and Surgeons should also disappear, the present chair holders becoming University Professors of their respective subjects. The University would thus become the teaching body, the examining body, and conferrer of degrees. The matriculating examination need not be made more difficult, but there can be no doubt that the desire is gaining ground that the degrees of Medicine and Surgery should only be conferred after that of Arts and the suggested arrangement would enable a student to educate himself for both degrees concurrently. It would place the Manitoba graduates on a much better standing and would command extended reciprocity with other colleges and universities, and further, would promote that most desirable object, the timely establishing one powerful and well supported and appointed University, ample in its facilities for the education requisite for and conferring of the various professional degrees. A University that would admit of no rivalry in the future, but would be to Manitoba what Oxford and Cambridge have been to the United Kingdom and the University of Dublin to the whole of Ireland. The Manitoba University might enfold all the registered practitioners (quack employes excepted) at present on the list and we feel sure that fees now grudgingly paid would then be cheerfully tendered to the University authorities. That such a change would attract a much larger class there can be little doubt. The only parties who would be interfered with in the proposed measure would be a few officials of the College of Physicians and Surgeons. Unfortunately they are an established body and therefore many do not care to interfere with them, but the welfare of the profession in this Province demands a change and as we have before stated the time is now most propitious and we cordially invite the profession to give their views on the subject.

Dr. Brett fills the important position of Premier in the Northwest Council.

THE governors of the Winnipeg General Hospital held their annual meeting last week. Mr. Hespler was reelected Chairman and Judge Bain, Hon. Secretary-Treasurer.

A COLLEGE of Physicians and Surgeons has been founded for the Northwest Territories. Drs. Brett, Edwards, Lafferty, Cotton and Wilson have been elected members of the first Medical Council.

LIBRARY TABLE.

"Micro Organisms as Parasites,"—by Mrs. Alice Bodington, Vancouver, B.C.

"The Cure of Crooked and Otherwise Deformed Noses,"—by John B. Roberts, A.M., M.D., Philadelphia.

"Concealed Pregnancy; its Relation to Abdominal Surgery,"—by Albert Vanderveer, M.D., Surgeon to Albany Hospital.

"Pulmonary Consumption Considered as a Neurosis"—by Thos. J. Mays, M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic.

"Cuba in its Relation to the Southern United States: its Danger as a Disease Producing and Distributing Centre,"—by Wolfred Nelson, C.M., M.D., 32 Nassau St., New York City.

"Eunuchiation of Tuberculous Glands,"—by Thos. W. Kay, M.D., Scranton, Philadelphia. Ex-Surgeon to Johannite Hospital at Beyrout, with case of cerebral abscess following injury of the skull.

"The Endemic Fever of the Northwest Territories,"—by A. Jukes, M.D., Senior Surgeon to the Northwest Mounted Police. A very valuable contribution to the etiology of this disease, by one who has enjoyed special opportunities for investigation.

"Text Book of Medical Chemistry,"—by Elias H. Bartley, B.S., M.D., second edition, enlarged and revised with sixty-two illustrations. Blakiston, Son & Co., Walnut St., Philadelphia. A very concise work on the subject of which it

treats. A valuable book for the use of students and will be worthy of a place in the practitioner's library.

"Handbook of Materia Medica, Pharmacy and Therapeutics,"—by Samuel L. Potter, M.A., M.D.—second edition—P. Blakiston & Son, Walnut St., Philadelphia. Both for practitioner and student this work will be found of great value, simple in language, graphic, and yet comprehensive in description, it is readily understood. It contains a greater amount of matter than any other publication on the same subjects, giving the physiological action of the various drugs, instructions for prescription writing, which many may study with great advantage to themselves and benefit to the chemist, as well as over two hundred pages of special therapeutics and other matter necessary for the educated as well as educating physicians. We strongly recommend this book to the notice of the profession.

MISCELLANEOUS.

TEX MINIONS of fluid extract of gelsemium taken at bedtime will, according to the *Southern Medical Record*, effectually abort a cold in the head, when administered in the acute congestive stage.—*Cleve Med. Gazette*.

PUERPERAL FEVER.—M. Widal believes puerperal infection to be produced by the streptococcus pyogenes entering the animal economy by first lodging in the ulcerated uterine mucous membrane. The diffusion of the microorganism by the uterine vessels explains the distribution of this affection in various organs. M. Widal has observed that the false membrane sometimes present in puerperal fever has no analogy with the false membrane of diphtheria. The puerperal false membrane and the pus of the abscesses are of the same origin, and are produced by the streptococcus pyogenes. M. Widal has examined the veins in a number of cases of puerperal phlegmasia alba dolens, and has ascertained that the origin of this affection is always due to the presence of the streptococcus pyogenes in the endothelium of the vein; the clot forms after inflammation has set in. The difference

between the mildest form of phlegmasia alba dolens and the most serious form of suppurative phlebitis is only a question of degree. The clot sometimes changes into true pus, not a fluid containing pus corpuscles. According to M. Vidal the streptococcus which produces erysipelatous dermatitis can, unassociated with other microbes, produce suppuration in phlegmonous erysipelas. The streptococcus, isolated from puerperal discharges, produces erysipelas in the same way as does the streptococcus isolated from a patch of erysipelas.

CAUTION REGARDING EXTRACT OF MALE FERN.—A Bohemian practitioner, writing in the *Allgemeine Medicinische Central Zeitung*, mentions a case where, having administered two drachms of extract of male fern in gelatine capsules, followed by castor oil, which had brought away a considerable length of worm, he was somewhat surprised to be aroused at five o'clock on the second morning to go to the patient, who had just had a violent rigor, and was at that time feverish and suffering great pain in the abdomen with diarrhoea and constant vomiting. The temperature was 103° F., and the stools presented the characteristic odor of male fern. For these symptoms ice and morphia were prescribed, by which means the sickness was brought under pretty quickly, but the intestinal catarrh required treatment for several days. The writer came to the conclusion that the explanation of the late appearance of the symptoms was due to the fact that the extract in the capsules had become inspissated, and therefore difficult of solution in the juices of the stomach. Some little time later he gave the same patient a drachm and a half of the extract in the fluid form, and succeeded in bringing away the whole of the worm without causing any disagreeable symptoms.

WILD-PARSNIP POISONING.

Dr. G. A. Phillips, of Ellsworth, Maine, reported observations on the effects of wild parsnip before the Maine Medical Association, June 12, 1889. Botanically and in physiological action this plant re-

sembles the water-henlock. It is the *Pastinaca sativa* of Gray.

The poison takes effect in direct ratio to the rapidity of the digestive powers in children, about two hours after the ingestion of the root. The symptoms are flushing of the face, mental dulness, followed soon by twitching of the extremities and severe convulsions, with coma, pupils widely dilated, respiration shallow, pulse weak, rapid and thready, tongue dry and swollen. Treatment was by opium and prolonged etherization, after emetics and enemas.

Death occurs in cases not promptly relieved. Strong infusion of the root injected under the skin of a cat had no other effect than to widely dilate the pupil. — *Boston Medical and Surgical Journal*, July.

VESICO-VAGINAL FISTULA.

M. Polaillon reported an operation for vesico vaginal fistula to the Obstetrical and Gynecological Society of Paris, which he believes to be original with himself.

The case is that of a young woman who introduced some hair pins into the bladder. Around these foreign bodies calculi formed, which were removed by a vaginal incision. After the operation there remained a fistula of some size, situated upon the posterior wall of the urethra. Many attempts at closure were made by different surgeons, but without success. M. Polaillon undertook the cure of the fistula by the following method. He dissected across the orifice of the fistula a fold of mucous membrane from the internal portion of the anterior wall of the urethra and of the neck of the bladder and sutured it to the posterior wall of the urethra. After a month and a half or two months at the hospital she was discharged cured.

There remained behind the obliterated fistula a narrow track, owing to a suture that had cut through the tissues. The patient urinated by the meatus, and a little later by the narrow track produced by the suture, but she never had incontinence. The urine did not irritate the denuded surface. — *Archives de l'ocologie*, June, 1889.