Our next experiment was made with a 10 per cent. solution of ergotine (Bonjean's extract), which had been carefully neutralised with carbonate of soda.

September 10th. Temperature of room, 15.5° Cent. (59.9 Fahr.)
Head of pressure, 31 centimètres.

Rate of Flow per 5 minutes.		Rate of Flow per 5 Minutes.	
18 c.c.		29 c.c.	
Saline solution 0.6 per cent.	18 "	Ergotised solution re-placed.	19 "
	19 "		13 "
	24 "		13 "
	25 "		11 "
	30 "		
Ergotised saline (4 c.c. ergotine to 100 c.c. saline).	34 "	Saline solution replaced.	10 "
	23 "		15 "
	23 "		19 "
	14 "		22 "
	13 "		25 "
Saline solution replaced.	13 "	Ergotised solution re-placed.	20 "
	14 "		13 "
	18 "		12 "
	24 "		
	28 "		

This experiment confirms very definitely the previous two experiments. We here note that, on three separate occasions, the rate of flow falls subsequently to the addition of ergotine, to again rise on resubstitution of the ergotised solution by unpoisoned saline. The fall in each case is very decided, viz.: in the first case, from 25 c.c. to 13 c.c.; in the second, from 28 c.c. to 11 c.c.; in the third, from 25 c.c. to 12 c.c. The movements of the hind limbs of the tortoise³ became more active almost immediately after the first addition of the ergotine, then declined, and were speedily lost; but, in spite of this, the persistence of vitality of the arterioles is proved by the dilatation which in each case followed replacement of the ergotised solution by saline solution. In this experiment, acidity as a disturbing cause was eliminated, yet the first addition of ergotine was followed by a primary rise in the rate of flow; this rise, however, was but slight, and was much more transitory than was observed in the preceding experiment.

These experiments do not admit of much criticism; and, in concluding this brief contribution towards the pharmacology of ergot, we would restate in a few words the argument, the steps in which are:

1. The selection of the tortoise as an animal, the vitality of whose tissues is remarkably persistent, and therefore well adapted for lengthened experimentation;
2. The establishment of an artificial circulation through vessels removed from central nervous control;
3. The alternate addition to and subtraction from the circulation of the drug under experiment, viz., ergotine.

In how far we are justified in our conclusion that ergotine does act directly on the vessels, or, more strictly stated, does act independently of the central nervous system, we must leave to be decided by means of the experiments themselves.

³ These movements persist in the tortoise long after the spinal cord has been destroyed, as completely as this is possible by means of a wire.

THE LONDON FEVER HOSPITAL.—A private inspection of a new pavilion, containing two small wards and isolated rooms, in connection with the above institution, recently took place, when a large number of medical men were present. The hospital, although essentially a charitable institution, is limited to the reception of those classes who are able to make some contribution towards the heavy expenses incurred in their treatment. In consequence of the increase in the number of infectious diseases now admitted, the committee have found it necessary to extend the building. The new blocks stands upon an open-arched half-sunk basement story, six feet high, thus ensuring a constant movement of air beneath, which provides a ventilation which is sweet and fresh. Adjoining the two wards, which contains five beds, are a nurse's room, kitchen, and bath rooms. The material selected for facing the walls is glazed brick, which is capable of being frequently cleansed and disinfected. The floors are fire-proof, whilst more than ordinary attention has been paid to the arrangements of the windows, which not only present a cheerful aspect to the patients, but afford plenty of air without draught. At the conclusion of the inspection, general satisfaction was expressed with the care which had been taken to provide for the comfort of the patients.

BRITISH MEDICAL ASSOCIATION.

FIFTY-FIRST ANNUAL MEETING.

PROCEEDINGS OF SECTIONS.

AMPUTATION BY OBLIQUE CIRCULAR INCISION.

Read in the Section of Surgery.

By JAMES HARDIE, M.D.Ed., F.R.C.S.Eng.,

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THE object I have in view in this short communication is to bring under your notice a method of amputating, by which the operation may be rendered as simple and expeditious as appears possible, and the correct principles of guidance be, at the same time, fully observed.

I will take it for granted that these principles include the following. 1. Due regard to the preservation of the length of the limb. 2. Ample cutaneous covering of the bone. 3. The location of the cicatrix out of the line of pressure. 4. Due regard to the nutritive supply of the stump, and the proper coaptation of the cut surfaces.

These conditions are, to some extent, antagonistic. For example: length of limb would be best secured by two equal sized flaps of skin only. But this would place the cicatrix directly under the end of the bone. Again, the nutrition of the stump would be best secured by including a large proportion of muscle, as in the ordinary flap-operation. But this would entail a higher division of the bone than skin-flaps, and difficulty would be experienced in accommodating the fleshy mass. To give all considerations their due weight, it would appear that a long flap of skin, with a quantity of muscle sloping from its base to a little distance from its free border, on one aspect, and a short flap of skin only, on the opposite aspect, would be the best method which could be devised. For obvious reasons, the long flap would generally be on the anterior aspect, and the short on the posterior. This is, practically, the operation Mr. Lister recommended, in his essay in Holmes's *Surgery*, for the thigh and leg. It is, of course, in these situations that full attention to the method of operating is chiefly demanded; and, though the principles are applicable to the upper extremity also, my present remarks have reference especially to the lower.

While fully agreeing, then, with Mr. Lister in the soundness of the principles which he advocates, I have yet constantly found, both in my own practice and that of others, that a certain degree of inconvenience is attached to this method of operating. In forming the posterior flap, the limb must be elevated considerably, and the surgeon has to work somewhat awkwardly underneath it. In addition to this, considerable care has to be taken that the flaps bear a certain proportion to each other, in order that they may come together accurately. A certain amount of difficulty thus attends the operation, and it takes a somewhat longer time than one likes. Possibly, in consequence of these disadvantages, it does not appear to find that amount of favour which it otherwise merits; and certainly, judging from the number of stumps, both of the thigh and leg, which one meets with, showing a total disregard for the position of the cicatrix, and therefore for the future comfort of the patient, one would imagine that a ready method, by which this most important detail may be secured, is still a desideratum.

These considerations have led me to introduce into my own practice a different method of carrying out the objects which I have indicated. Bearing in mind the favour which the circular operation generally receives at the hands of operators, on account of the ease and rapidity with which it may be executed, it appeared to me that it might be so modified as to attain these objects in a very complete manner. I have, therefore, been accustomed to hold the knife obliquely to the axis of the limb, in making the sweep around it, instead of transversely, as in the ordinary operation. To take the middle of the thigh as an example, I place the heel of the knife at A, draw it round the limb obliquely, upwards and backwards, at an angle of about 55° to its axis, to B, where the direction changes, as it passes round the posterior aspect, to a direction obliquely downwards and forwards back again to A. Both at A and B, the line of incision is slightly rounded, so that A is convex and B concave. This incision goes at once down to the muscular aponeurosis; although it is convenient, for the subsequent insertion of the stitches, to have

the skin free from fat midway between the upper and lower limits of the incision, on both the outer and inner side of the limb, as the flap has here to be folded on itself. The skin and its attached fat is next dissected back for a couple of inches at A, and taken in hand by an assistant, who pulls it upwards, so as to enable the surgeon similarly to separate it to a less extent all round the limb. This being done, the knife is then sunk obliquely into the anterior muscular mass, as was done by Alanson, until it reaches the bone; and the whole being well retracted, the remaining mass of muscles is totally divided in the ordinary manner by two principal strokes of the knife, the direction of which is still slightly oblique towards B. The bone being cleared, it is sawn at C, which is about an inch or an inch and a half above B.

As a result of this method of operating, the anterior portion of the soft parts falls well over the face of the stump and end of the bone, the convex anterior flap fitting nicely into the concave posterior, and, when healing is completed, the scar is entirely behind the bone, and in no danger of pressure. All the advantages of the method by long anterior and short posterior flaps are also preserved, and I believe it will be found that greater facility and expedition in operating are secured.

[A patient was exhibited in whom the operation was performed at the junction of the middle and lower thirds two years previously, and who was able to walk perfectly with the weight of his body resting principally on the end of the femur.]

Amputation through the knee-joint, with preservation of the patella by this method, I find to be a most excellent operation; excellent in the ease with which it is performed, and in the stump which results. In this situation, owing to the distance to which the integuments of the ham retract after their division, it is advisable to draw the incision less obliquely than in the thigh, and my rule is to begin an inch and a half below the tubercle of the tibia, and to draw the knife round to a point about an inch below the cutaneous fold of the ham, D E. The skin and subcutaneous cellular tissue having been dissected up until the lower border of the patella is visible, an operation which is facilitated by flexing the knee, the ligamentum patellæ is divided, and the head of the tibia, with the semilunar cartilages, then separated by division of the other ligamentous structures. The assistant having then carefully drawn the posterior border of the incision out of harm's way, the whole of the structures behind the joint are next divided by a single stroke of the knife, from the surface inwards. With the exception of Syme's ankle-joint amputation, I know of no operation which gives a better stump than this amputation through the knee; and I may remark, parenthetically, that I believe we should consult the prospects of recovery, and the future comfort of our patients, were we oftener to select amputation in this situation rather than in the upper third of the leg. [Two patients were exhibited showing this amputation.]

In the leg, the incision may be drawn from before backwards and upwards, as in the thigh, special care being taken to slope the knife well upwards when dividing the sural muscles. Occasionally, on account of the tendency which the skin covering the inner surface of the tibia has to slough, I have taken the covering from the outside, retaining as much as possible of the muscular tissue attached to the fibula, and dividing the bones almost at the level of the incision on the inner aspect. The former method gives the better stump should no accident befall it, but the liability to sloughing is undoubted.

Although it is to amputation in the lower limb that I look upon this operation as specially applicable, yet I have also had recourse to it in the upper. Here, probably, the covering is best taken from the posterior aspect; and, in one case of amputation through the elbow-joint, I obtained an exceptionally good result in this manner.

I have practised this operation now for over ten years, under the name of "oblique circular" amputation, as a term best describing its main feature. I am bound to confess, however, what I have not long since discovered, that an operation in all essentials the same has for long been described by French writers, as invented by Soupart of Liège. Though I cannot, therefore, introduce it to you as a new operation, yet I can cordially recommend it as an old one. I should have been glad, had I been able, to bring before you a greater number of persons on whom I have practised it; but, although I have only succeeded in tracing three whom I could bring to this meeting, I can frankly state that their stumps are not better than those which may generally be obtained.

ON INTERMITTENT FEVER AMONG CHILDREN IN LOW-LYING DISTRICTS: ITS FREQUENCY, AND THE IMPORTANCE OF RECOGNISING IT, OWING TO ITS CURABILITY.

Read in the Section of Diseases of Children.

By W. R. THOMAS, M.D., M.R.C.P.,

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DURING the last few years I have been rather astonished at the frequency with which I have met with cases, more especially in hospital-practice, among children presenting symptoms of which the following is a somewhat general description, and at the magic effect of quinine when prescribed in such cases.

The child for a few days appears to be cross and irritable, disinclined for fun or amusement, and seems to be languid and excessively weak; the appetite is poor, and whenever moved the child cries, as if any movement gave rise to pain. After a time the patient seems to be cold; the face looks pale and pinched; the hands are shrunken and pale; the skin generally is dry and rough; the appetite is poor; the respiration is frequent, and the pulse is frequent and small.

After a time, which is extremely irregular, ranging from half an hour to two or three hours, the skin begins to be hot and dry, the pulse, which before was frequent and small, becomes now full and yet frequent; the respirations become more frequent; there is want of appetite, great thirst, costive bowels, the urine is scanty and high, and occasionally there is slight delirium. This stage continues for from two to six hours.

Then comes the sweating stage; the whole skin becomes bathed in perspiration, and all the symptoms abate; respiration becomes more natural; the pulse full, and less frequent; the appetite improves; the thirst goes; and a deep sleep comes on, from which the patient awakens apparently refreshed, but very languid.

Such is a description of these cases when seen by the medical man daily; but generally speaking, in the out-patients' department in hospital-practice, it is difficult or impossible to obtain a concise account of the case from the parent. This is the sort of case we are apt to see. A patient, aged eighteen months, is said by the parent to have been becoming weaker day by day for the last two months. The lips and face are pale; the pulse frequent and weak; the appetite is poor; thirst is great; bowels costive; urine high; there is no lung or heart mischief; no abdominal signs of importance.

In such a case it is often difficult to make a proper diagnosis; and when we see a patient daily becoming weaker, and more especially if we get a history of the heats and sweats, we are apt to look out for tuberculosis. I have many times been quite at a loss when trying to ascertain the cause. I have looked out for phthisis, pulmonary, or abdominal; and, thinking that the profuse perspirations,