tion of the former. It is more than probable, however, when one considers the complexity of the cord, that restoration of the muscle-harmony may follow in the course of time, and eventually the knee-jerk be recovered, non-union of the nerve still existing.

It is not my intention at present to offer this as an explanation of the loss and subsequent return of knee-jerk in certain cases of tabes, the question being one of greater complexity.

Muscle-tone is the great factor in the production of tendon-phenomena. Normally, the muscles of the whole human frame exist in a certain state of tension, which, to some extent at least, is dependent upon the motor nerves and their central connection. The sudden and more or less complete abolition of tone is sufficient to stay the tendon-phenomenon.

If the spinal cord be completely divided, there is immediate interference with this toning influence, and absence of reflex. The absence of reflex, under such circumstances, has been imputed to shock. Elasticity, or, better still, tonic, is an inherent quality of muscle itself, restrained by nerve-force. The sudden withdrawal of this ruling influence brings about loss of tone, more or less complete for the time being. This property of muscle, under slightly altered circumstances, may be readily exhausted, but not for any length of time, as recovery is rapid. The exhaustion may be one either of muscle or of nerve.

Evidence, on the whole, goes to show that knee-jerk is not reflex, but due to direct stimulation of the muscle by way of the tendon: nevertheless, and this is the point of interest, normal integrity of the spinal cord and its connections with muscles is essential for the production of the phenomenon.

TREATMENT OF HÆMORRHAGE AFTER RECTAL OPERATIONS.

By SAMUEL BENTON, L.R.C.P., M.R.C.S. Eng.,

Surgeon to the Western Hospital for Fistula; late Surgeon to the North-West London Hospital.

In operating for the cure of fistula, piles, or any affection of the rectum, hæmorrhage will sometimes occur. It is not uncommon in free livers, and in old people with a broken-down constitution. When the bleeding proceeds from an artery, the bowel must be brought down into view, and the vessel secured with a ligature; but venous bleeding is by far the most frequent, and sometimes a general oozing of blood takes place.

Secondary hæmorrhage usually occurs from a vein which has been opened by sloughing or ulceration. The usual treatment is plugging, either with a sponge, or with cotton-wool well powdered with persulphate of iron or alum. For several years I was in the habit of following the popular practice of using dry cotton-wool. Finding this was often attended with a considerable amount of pain, not only at the time of its introduction and removal, but by its mere presence preventing the escape of flatus and provoking retention of urine, for some time I have partly obviated some of these defects by fixing a piece of India-rubber tubing in the middle of the wool-plug. Still these plugs cause considerable inconvenience, as their size cannot be regulated when once inserted.

These disadvantages are completely overcome by the little instru-

Fig. 1.

ment shown in Figure 1, and which has been made at my suggestion by Messrs. E. Wright and Co., of Bond Street. It is merely a soft piece of French catheter-tubing surrounded by a dilatible air-bag. The air-bag is made of very thin rubber, constricted below the middle,

Fig. 2.

so that too much pressure shall not be brought to bear upon the sphincter ani.

I have used this instrument, and found it most satisfactory for the arrest of hæmorrhage.

Figure 2 depicts a longitudinal section of the pelvis, with the air-tampon *in situ*.

I can imagine that this instrument may be found useful in obstinate cases of pruritus ani, when due to a relaxed condition of the hæmorrhoidal veins; also a modification may be used in the treatment of spasmodic or syphilitic stricture of the rectum, and in prolapsus.

I am indebted to my friend Mr. C. R. B. Keetley for executing the diagrams.

HYDROCHLORATE OF CUCAINE IN DISEASES OF THE THROAT AND NOSE.

By MORELL MACKENZIE, M.D.,

Physician to the Hospital for Diseases of the Throat, etc.

It may be interesting to know that I have found hydrochlorate of cucaine extremely useful in operations for the removal of nasal polypi. It is not enough to paint the growth itself, nor even the parts immediately surrounding its base; the solution should, as far as possible, be applied to the whole of the mucous lining of the nasal fossa. The remedy has also proved of service, in my hands, in those cases of laryngeal phthisis in which there is great odynophagia owing to swelling of the epiglottis. Patients, who before could swallow only with extreme pain and difficulty, have been enabled to take food with perfect ease and comfort. The best time for swallowing appears to be about ten minutes after the application, whereas operations can be done after an interval of from three to five minutes. The difference is probably to be explained by the fact that in the former case the patient feels himself, at first, unable to make the attempt to swallow from the total abolition, locally, of all sensibility to nervous impressions. In all cases, the anaesthesia persists for about two hours. Apart from the restoration of the power of taking nourishment, much relief is given by the mere absence of pain. When it is remembered how much suffering is caused to patients with inflamed or ulcerated throats by the continual necessity of swallowing or coughing up the copious secretion which is so troublesome in these cases, it is a comfort to have at hand a remedy which renders these acts painless, without in any way affecting the general system.

Both for the larynx and for the nose I have employed a 20 per cent. solution of the drug, made for me by Mr. Martindale. I think it likely that this, or a somewhat weaker preparation, would prove a valuable remedy in hay-fever, or might even prevent the attacks.

NOTE ON CUCA.

By W. WATSON CAMPBELL, M.D., F.R.C.P.E., DUNS.

I REMEMBER, when attending the late Sir Robert Christison's class, more than twenty years since, that in speaking of cuca he commended it very highly as a paratriptic and restorative. It had been brought under his notice by the fact that it had been used as such for a long and indefinite time by the natives of some of the northern countries of South America.

When Weston, the American pedestrian, was exhibiting in this country, he was frequently detected chewing something which, for some time, he kept secret, but which he ultimately admitted was cuca-leaf.

Soon after this disclosure, a friend gave me a rude brass cylinder box, which he had brought from India. Such boxes, he told me, were carried by the Rajpoots. It was divided into three compartments. In one I found betel nut, in another lime, and in the third, and largest, compartment, I found cuca-leaves; showing that the Rajpoots were in the habit of using these as well as the South Americans.

From about that time—over three years since—I have used cuca in different forms; but the preparation which I now prefer is a compound tincture (which can be got from Messrs. Duncan and Flockhart, Edinburgh). Every twenty ounces of this tincture represent five ounces each of cuca-leaves and hops. I have found a drachm of this, taken in a wineglass of sweetened warm water three or four times a day, or as required, a most useful medicine in many cases—as a restorative in physical exhaustion from any cause, as a calvative and hypnotic in cases of mental irritation and insomnia; and, in cases of weak cardiac action with frequent recurrence of threatened syncope, it has appeared to invigorate the heart and check these disagreeable recurrences. Even in cases of continued and severe suffering from local

disease, I have found it give great relief—so great as to allow of refreshing sleep.

In using euca, I have followed no special line of experiment, and yet I have been much pleased with it in such cases as those to which I have just referred. The combination with hops occurred to me as likely to aid the euca as a tonic and hypnotic.

THERAPEUTIC MEMORANDA.

ON THE USE OF CUCAINE IN COMBINATION WITH ATROPINE IN THE TREATMENT OF CERTAIN DISEASES OF THE EYE.

The use of eucaïne, as a local anæsthetic in operations upon the eye, has now become so general, and its value so firmly established, that no further evidence on that point is needed. The relief given in keratitis, and especially in those cases in which pain and photophobia are leading symptoms, is undoubtedly great; but the effect does not appear to be of long duration.

I was therefore led to try a combination of it with atropia, in the proportion of equal parts of an eight per cent. solution of hydrochlorate of eucaïne and of the liquor atropiæ sulphatis, *B.P.* With this combination I have found immediate and enduring relief given in keratitis and corneal ulcer, and also in sclero-conjunctivitis and iritis. The effect is more quickly produced, and more marked, than that of atropine alone, and the relief more lasting than that of eucaïne.

The fact that the physiological actions of these drugs are, in some respects, similar, leads me to hope that this may be found a sound and useful combination.

D. C. LLOYD OWEN, F.R.C.S.I.,

Surgeon to the Eye Hospital, Birmingham.

CUCAINE AS AN ANÆSTHETIC IN OPHTHALMIC SURGERY.

ADAM C., aged 36, was struck in the right eye with a fragment of hot metal on November 24th. The fragment, which measured 12 millimètres long and 10 broad, stuck in the sclerotic, and was removed by the patient himself. He came to my house immediately, and I found a wound in the sclerotic in the direction of the internal rectus tendon, 3 millimètres long, through which vitreous humour was escaping; the inner attachment of the superior lid was wounded. After three instillations of solution of hydrochlorate of eucaïne (one grain to the ounce) at intervals of five minutes, the conjunctival surface was found to be anæsthetic. The wounds and conjunctival sac were cleansed with 4 per cent. boracic lotion, and the scleral wound and divided lid united with silk sutures. Absorbent cotton-wool and a roller bandage were then applied.

Little or no reaction followed; the scleral stitch came away on December 3rd; and, on December 5th, the wound was perfectly united, and the patient read Jäger 1 with the injured eye. He was exhibited that evening at the Leicester Medical Society.

This case illustrates, in a remarkable manner, the value of the new local anæsthetic, as it enabled me to stitch up the wounds without either assistant or eye-speculum, the consciousness of the patient allowing him to assist me in the operation. He evinced so much sensitiveness on my examining the eye, that I should have found it a very difficult and, perhaps, impossible matter to treat the case without an anæsthetic. Chloroform or ether, in a muscular man of 36, would, to a certainty, have occasioned struggling, perhaps vomiting, and further loss of vitreous humour.

FRANK H. HODGES, F.R.C.S. Ed.,

Ophthalmic Surgeon to the Leicester Infirmary.

CUCAINE IN NEURALGIA.

DURING the last three weeks I have used eucaïne in six cases of supra-orbital neuralgia, with an amount of success which I think justifies a further trial of this mode of treatment. I commenced by rubbing in a four per cent. aqueous solution of hydrochlorate of eucaïne, but no beneficial effect was produced, and it was clear that absorption did not take place. I next tried a hypodermic injection over the painful spot, of first an eighth, then a quarter, and finally half a grain of the same solution. The relief was almost instantaneous, and lasted from twelve to twenty-four hours, according to the dose employed; but the objection to this mode of treatment is the pain caused by the introduction of even a clean sharp needle. I abandoned this plan, and tried the inunction of first a ten and then a twenty per cent. solution in chloroform. This gave fairly good results, but the chloroform evaporates so quickly as to leave much of the salt on the skin. A better solvent is oil of cloves, and I now use a twenty per cent. solution of the

hydrochlorate in that menstruum. I rub in from five to ten minims with the finger, and find that almost instant relief is afforded. We hear a great deal of the toxic action of the drug, but I have never met with bad symptoms of any kind. The real objection to the treatment is the expense, a hundred minims of the twenty per cent. solution costing about £2 10s. In hospital practice it will be found cheaper to employ percussion, which sometimes gives excellent results, or to use a pigment made by rubbing up together equal parts of chloral, menthol, thymol, and camphor. WILLIAM McRELL, M.D., F.R.C.P., Assistant-Physician to the Westminster Hospital, etc.

SPIRITUS AMMONIÆ AROMATICUS.

If it be intended to issue a new edition of the *British Pharmacopœia*, I would venture to suggest to the editors that they should restore the old formula for this drug, as it existed in the *London Pharmacopœia*. My patients frequently complain of the acrid burning taste of the present preparation, even in half-drachm doses. On mentioning this to the druggists, I am told it is owing to the formula as laid down in the *British Pharmacopœia*. Indeed, many druggists still use the old London formula, in consequence of the complaints of their customers. It is only necessary to compare the two modes of preparation, to see how these complaints may arise.

EDWARD WELLS, M.D., F.R.C.P., Reading.

OLEATE OF COPPER AND HYPOSULPHITE OF SODA IN RINGWORM.

ABOUT two or more years ago, I used the oleate of copper, in the form of a soft ointment, in over one hundred cases of ringworm at the Middlesex Hospital. It was fairly tried for twelve months in nearly all the patients who presented themselves in the out-patients' skin-department. The result did not come up to my expectations. I concluded that it was not equal to oleate of mercury as a curative agent in ringworm. There was also the less serious drawback, that the patients' friends objected to the brilliancy of the colour of the ointment, which called attention to the fact that the children had ringworm. In one sense this might be an advantage, though not likely to be appreciated as such by parents. I subsequently used an ointment made of soft soap and salicylic acid (half a drachm or one drachm to the ounce). This compound turns dark brown if kept long. There is no other objection to it, and its use was attended with moderate success.

In 1871, I recommended a hyposulphite of soda lotion (one to one and a half drachms to the ounce) as a very useful remedy for ringworm when a watery application is desired. I still think it the best remedy of its kind. With regard to the subject of washing in ringworm, when an ointment is being used, it is usually better not to wash the head very frequently, because, in that case, the ointment does not penetrate so well as when the head is washed about once a week. Free washing with soap and water is a good preventive, and I often advise patients who have ringworm in their family to wash daily the heads of those children who have as yet escaped the disease. I have scarcely ever known ringworm to spread when this has been carefully carried out. Hebra was in the habit of treating ringworm with soft soap. I have, for some time past, been turning my attention to the manner in which ringworm is introduced into families and schools. I need not refer to the more obvious ways, which are well known. I wish to call especial attention to the fact that ringworm is unwittingly propagated by hair-dressers to a considerable extent. Children with ringworm (both known and unknown) are constantly taken to have their hair cut, and a brush and comb are used, and then used again for the next customer; if this happen to be a child, I need not describe the probable result. In schools, also, where the barber attends, he often brings his own comb and brush, and uses them freely, because the boys' own combs are too small. The only safe plan when children are taken to have their hair cut is to take, also, a comb and brush; it is, of course, the latter which is the more dangerous as a means of propagation of the disease. ROBERT LIVEING, M.D., F.R.C.P., Physician to the Skin Department of the Middlesex Hospital.

TREATMENT OF PHTHISIS.

I HAVE used the mullein-leaf very extensively for several years, both in private and in hospital practice, for the treatment of phthisis; but have never experienced the ill effects described by Dr. Richardson and Dr. Hampton. I have, however, observed these ill effects in cases where other mulleins were used instead of the verbasum thapsus. Even when the leaves are fresh, it requires care to avoid this mistake;