slight amount of contraction occurred immediately the quinine was given, and lasted about three minutes, when dilatation took place rapidly; it only occurred the first time quinine was given to each animal, and was more marked with 1-1000 than with weaker solutions. If, instead of stopping the quinine action after a few minutes it was allowed to continue, I found that in about thirty minutes the dilatation gave place to contraction, the flow being first rendered normal, and then diminished to less than half the normal flow—two hours being needed to produce this result. Normal saline very slightly increased the flow, but only for a few minutes, and never to the normal extent. The contraction produced by the continued action of quinine was never so great as that produced by digitaline 1-15000.

In one case a tortoise, after being used a whole day for quinine, was kept until the following afternoon, the tissues being then in a state of rigor mortis. Normal saline was circulated, the flow being very slight. Quinine sulphate had no effect in increasing the flow.

In order to test the statement, generally accepted, that quinine lowers the blood-pressure and dilates the vessels by acting on the vasomotor centres, I performed an experiment as follows:—In a decapitated tortoise (the spinal cord being left intact and reflex movements well marked), the effect of quinine in dilating the vessels was obtained, and the normal flow restored by normal saline. The spinal cord was then destroyed, so that all reflex movements were abolished; the effect of this was to increase the flow from the vessels to a considerable extent, the same pressure and same circulating fluid being preserved. Quinine solution was then given, and a further dilatation occurred quite as marked as when the cord was intact. This was again restored to normal by pure salt solution, and the experiment repeated with the same result. From this I conclude that the action of quinine is on the vessels themselves, and not on the vasomotor centres in the spinal cord.

What is the precise action of quinine on the vessels I am not able to say, but suggest that it may be the same as is seen on the leucocytes, that is, a paralysis of the contractility of the involuntary muscles in the walls of the vessels, the latter then dilating under the pressure of the circulating fluid, the secondary contraction after the continued action of quinine being due to the occurrence of rigor mortis, exactly as in the white blood corpuscle, or in voluntary muscle.

The dilatation of the vessels produced by quinine has an important bearing on the antipyretic action of the drug, while the occurrence of this dilatation after destruction of the spinal cord is particularly interesting, as Pellacani (*Arch. Italiane d. Biologie*, Tome viii) has shown that quinine will lower the febrile temperature of a dog after section of the spinal cord.

To summarise the results of my experiments, I believe that quinine acts essentially in the same manner on all forms of contractile tissue. In small doses it stimulates, as shown in the heart, the increased height of contraction of voluntary muscle, and the initial contraction of the vessels.

In larger doses, or after longer action of small doses, it completely paralyses the contractile power of the tissue; this is seen in the arrest of amoeboid movement, the cessation of response to stimuli in voluntary muscle, the stopping of the heart in diastole, and the dilatation of the vessels.

In very large doses, or after very prolonged action, quinine causes contractile tissues to pass into a state of rigor mortis, as shown by the small spherical condition of leucocytes, the rigidity of voluntary muscle, the contracted state of the heart, the secondary contraction of the vessels after long exposure to the poison, and the contracted state of the oesophagus.

Voluntary muscle (that is, the tissue in which contractility is developed to its greatest extent) was most susceptible to the action of quinine, and was thrown into rigor mortis by solutions which produce paralysis only of the less specialised tissues; with strong solutions (for example, 1-1000) voluntary muscle passes into rigor mortis so rapidly that the period of paralysis is abolished, and the tissue, after a short period of increased contraction, passes directly into a rigid and contracted condition.

I have not the time to enter into the action of other drugs allied to quinine; shortly, I found cinchonine to act like weaker solutions of quinine; cinchonidine had a similar but more powerful action on voluntary muscle than quinine; quinidine, on the other hand, acted as a direct depressant, the muscle dying with great rapidity.

MR. J. C. STEVENSON, M.P., has been elected President of the Ingham Infirmary, South Shields, vice Mr. Williamson, deceased; and Mr. Alderman Readhead, J.P., a Vice-President, vice Mr. Stevenson.

MASSAGE AS A MEANS OF TREATMENT IN CHRONIC DYSPEPSIA AND IN SLEEPLESSNESS.¹

By A. SYMONS ECCLES, M.B., C.M.,
Late Surgeon Imperial Ottoman Medical Service.

THE ever-increasing literature devoted to the consideration of chronic gastric and intestinal affections, together with the constantly-recurring advertisements of various aids to digestion published in medical journals, inclines one to believe that the majority of those who are engaged in the study and treatment of disease have experienced the same almost insurmountable difficulties in dealing with certain so-called functional disorders of the abdominal organs as myself; and in this belief I venture to bring to your notice the results of mechanical rather than medicinal means employed in the treatment of chronic dyspepsia.

There are two classes of cases in which massage has proved serviceable in my hands; the first is that which we know as atonic dyspepsia, where the abdominal organs partake of the generally anæmic, feeble, apathetic condition which appears to pervade the whole system and personality of the patient, frequently to such an extent that the disorder of digestion is overshadowed by the nervous symptoms, so that the case is regarded as one of neurasthenia rather than dyspepsia; although careful investigation into the history of the patient will lead to the establishment, in one's mental estimate of the symptoms, of some more or less serious interference with the health of the gastro-intestinal tract as the starting-point from which all the graphically-related troubles and woes of the neurasthenic sufferer have been evolved.

The second class of cases, of which I have not had the opportunity of treating so many as of the first, is characterised by all the symptoms of chronic gastric catarrh, due in some to interference with the portal circulation, and in two patients to direct irritation of the stomach by alcohol in the one case and tea in the other.

The distinction between the atonic cases on the one hand and the irritable cases on the other, has been made here because one has learned by experience that the mode of administering massage should be varied with the condition of the patient.

In the one class wherein we have the symptoms of a large, pale tongue marked with the teeth, accompanied by loss of appetite, a sense of oppression and over-distension after small quantities of food, and constant flatulence with habitual constipation, occurring in a feeble patient who has lost weight and energy, I have found it useless to practise massage too frequently at first, and the plan of treatment which has proved most successful in these cases is, with slight modifications in individuals when accidental circumstances arose, as follows: absolute rest in bed is enforced for a period varying between three and four weeks, according to the rapidity with which the case yields to treatment, the patient only being permitted to rise for the purpose of bathing or obeying the calls of nature. A cold sponge bath, which is taken after the first meal in the morning, and occupies less than three minutes, is followed instantly by a hot footbath, the patient standing in this while the body is rapidly dried; general corporeal massage is then performed, the limbs and trunk being first subjected to rapid effleurage (rubbing), then abdominal massage follows, the walls being first vigorously rubbed and rolled between the hands, after which deeper kneading of the liver, stomach, and intestines is carried out, this manipulation terminating with somewhat firm friction along the course of the colon.

This process of abdominal massage, as I have noticed in dealing with its physiological effects on healthy persons, is followed by a remarkable diminution in the pulse-rate, in some cases the reduction being as many as 30 or 40 beats a minute; and in one case of an old lady, over 80 years of age, the depressant effect was such that the pulse became intermittent; but, on employing effleurage, over the back especially, and then of the limbs, the pulse regained its normal tone and rate. It is, therefore, my invariable practice with weak and anæmic patients to conclude the sitting by rapid friction of the general surface of the body, whether kneading of the limb and trunk muscles (after the abdominal massage) is practised or not.

One sitting such as I have described generally suffices for the twenty-four hours; but, if there is much flatulence, the abdominal viscera are again gently kneaded in the evening, and, if the patient is restless and disinclined to sleep, gentle effleurage of the limbs and trunk usually results in soothing the patient, and, as I have frequently found, induces pleasant and refreshing sleep, though as a rule it takes a long time before your dyspeptic friend is freed from the grotesque

¹ Presented to the Section of Pharmacology and Therapeutics at the Annual Meeting of the British Medical Association in Dublin.

and oftentimes hideous dreams which are the almost constant concomitant of disordered digestion.

General massage, then, is performed once daily, abdominal massage once or twice as indicated, and sometimes evening effleurage for a period which rarely exceeds a week, at the expiration of which it will generally be found that the patient will bear thorough vigorous manipulation once daily, followed by more gentle handling in the evening, the force of which may be increased as the strength and weight of the patient improve. I have never seen any advantage accrue from the performance of properly administered massage more than thrice daily in these cases of atonic dyspepsia, and, if the temperature, pulse, bodily strength, and weight are carefully noted, I think it will invariably be found that any increase in the number of sittings will retard rather than advance recovery.

With regard to the dietetic treatment of these cases, it would be presumptuous on my part to suggest that any plan devised by myself is superior to that generally followed, and modified to suit the needs of individuals by those who have greater knowledge and keener insight in regard to the processes of digestion, whose footsteps I have followed only, I fear, at too great a distance; but, in order that this record may not be incomplete in this respect, I would briefly indicate what is doubtless a well-worn track.

At the commencement of the treatment, the practice of Weir Mitchell has been imitated, the patient taking at intervals of two or three hours, according to circumstances, from 4 to 6 ounces of peptonised milk, which has usually been prepared for me by Messrs. Welford and Sons, but which can, with some little expenditure of care and patience, be made at home by a skilful cook, the functionary on whom, I am bound to say, no small proportion of the success attending this treatment depends.

Directly after the morning massage a teacup of hot beef essence, to which is sometimes added the unbeaten white of one egg, is given; so that during the first week the diet consists exclusively of about thirty-six ounces of milk and six ounces of strong beef essence daily. The quantity of milk is gradually increased after this till five pints are consumed daily; at first one and then two milk puddings, containing half a pint of milk and one egg in each, being included in this quantity. About the same time as the puddings are added to the dietary the quantity of meat juice is increased gradually, sometimes hot, in other cases prepared and taken cold. At the end of the third week raw meat sandwiches, and later cooked meat, stewed fruits, and green vegetables, with toast and thin rolled fried bacon, are included in the diet scale. At the same time the passive exercises which have been added to the morning sitting for massage during the third week are, when meat is being taken, supplemented by a series of active exercises increasing in number and force till the patient is able to digest and assimilate food without difficulty—a result obtained in twelve out of fifteen cases which have come under my care.

You will remember that at the outset of this paper I referred to the existence of cases in which the inability to digest and assimilate food resulted in a condition which we know under the name of neurasthenia. It may be that dyspepsia is the earliest sign of general faulty innervation; but, whether that be so or not, there are cases which one has seen where the neurasthenic condition has passed away as soon as the patient has regained the power of truly ingesting nourishment; and this happy result is attained in the cases to which I refer without the enforcement of that rigid seclusion recognised as perhaps the most potent factor in dealing with hysterical and nervous patients as a rule.

One case, in which the whole alimentary tract was affected by an indolent ulcerative condition of the mucous membrane, giving rise to dysphagia, vomiting, and diarrhoea, sometimes dysenteric in character, will serve to illustrate my meaning in regard to the initiation of neurasthenia by atonic dyspepsia. The patient, sent to me by Dr. Lauder Brunton, was a lady, aged 38, married at a very early age, had borne children rapidly in a hot climate, where she had contracted ague, malarial sore mouth, and chronic dyspepsia as a consequence. For eight years she had been rarely able to take food without much suffering, and frequently any attempt to digest animal food was followed by sickness and diarrhoea. Indeed, her sufferings, as detailed by the patient at our first interview, were, although doubtless exaggerated, sufficiently real to excite commiseration in the most stony-hearted professor of the Weir-Mitchell treatment; for, in addition to the painful state of the alimentary mucous tract, there was considerable brawny cedema of the left leg, which had followed a tedious confinement. The complexion was pale and sallow; and, although the patient was a brunette, the skin of the rest of the body was blanched to a deadly whiteness, the finger and toe nails being devoid of colour. The tongue was large, pale, deeply indented by the teeth, with two or

three patches of ulceration on the dorsum and edges, the fauces and gums being swollen and bloodless, with ulceration at the base of the teeth and on the palate. The pulse was small, easily compressible, and rapid, varying between 90 and 110. There was no appetite, but rather a distaste for food, which, even in small quantities, produced a sensation of fullness and weight in the epigastrium; while within half an hour of taking nourishment the abdomen became distended and hard. Flatulence was persistent, and vomiting occurred after every meal for three days after admission.

Constipation existed for some time previous to my seeing the patient, and continued for more than a fortnight after, alternating with small, hard clay-coloured stools, which followed the exhibition of a pill containing two and a half grains each of dried oxgall and cascara sagrada extract twice daily; calomel given in the ordinary way, as also in the form of Warner's *parvules*, had no effect in altering the character of the evacuations. The liver was smaller than natural. The urine was scanty, high coloured, specific gravity 1030, containing lithates, a trace of albumen, no sugar.

The other organs were apparently healthy, save that the heart-sounds were feeble, and accompanied by an *æmemic bruit*. The patient was placed on the strict regimen previously described, massage was performed once daily, abdominal massage twice, frequent vomiting, restless nights; flatulence and weeping continued for a fortnight, when I almost despaired of making any impression; but at the request of the husband, the treatment was persevered with. Gradually the vomiting of curdled masses subsided; after massage of the abdomen the patient experienced relief from the sense of tension and oppression, the flatulence became easy of dispersion; the diet was taken without repugnance, and on the twenty-first day of treatment the patient (5 feet 9 inches in height, large framed) who weighed on admission 8 st. 9 lb., now scaled 9 st. From this date progress was rapid, the coldness of the extremities gave place to healthy warmth, the complexion and skin assumed a ruddier tint, the nails becoming pink, and the general texture of the integuments firmer. Meanwhile the appetite improved so that the patient was able to take three meat meals daily, in addition to the milk diet, and that this large quantity of food was assimilated, the steady gain in weight proved, for on the forty-second day of treatment the patient scaled 9 st. 12 lb., showing an increase of 17 lb. since the first day of treatment, a week after the weight was 10 stone, and on the conclusion of the treatment the weight had risen to 10 st. 4 lb., showing a total gain in nine weeks of 23 lb. The subjective symptoms of dyspepsia were no longer present, the ulceration of the tongue and gums disappeared, while the buccal mucous membrane was firm and well coloured. Pain in the back, which existed in a marked degree between the shoulders, ceased, and the patient, from a gaunt, pale, haggard, and unhappy dyspeptic developed into a well-proportioned, cheerful, and contented person, for whom a prolonged sojourn on the Engadine completed the restoration to good health, which has been maintained for upwards of seven months, as the following extract from a letter dated July 16th, 1887, will show; the patient writes, "I am thankful to say I am keeping very well and strong, but I have certainly lost weight since I left you, but this is not surprising considering how I knock about in spite of the heat, generally walking four or five miles a day." This patient called on me shortly before I left town for this meeting, when I found that the loss of weight was only four and a half pounds, while in every other respect her health was as good as when she left my house.

It may be argued that the case just cited was not one of typical atonic dyspepsia, and therefore not fairly illustrative of the value of massage in such conditions of the digestive organs, which it is the purpose of this paper to demonstrate; but it has been introduced to your notice here with a view to show that even where the lining membrane of the alimentary canal is so far diseased as we believe it to be in malarial sore mouth, and as we can see, it is in so far as the oral cavity is concerned, massage of the skeletal muscles and abdominal organs will promote a better nutrition of the structures more particularly engaged in the adaptation and absorption of material for nourishing the body, while it undoubtedly aids the second digestion of the matters necessary to the building up of the various tissues throughout the system.

The next case to which I wish briefly to refer is that of a gentleman, aged 47, who, in addition to his duties as the head of a business firm in the City of London, is well known in the charitable world for the devotion of twenty-five years of his life to the active superintendence of an important mission amongst the criminal classes. This patient had for more than two years suffered from loss of appetite, constipation, frequent bilious attacks, and nausea, resulting in general inability for work, sleeplessness, and depression, culminating in a

thorough break-down and absolute insomnia, which Dr. Arthur Gamgee, who sent me the patient from Hastings, found little if at all amenable to treatment, and, at his request, the case came under my care. At my first interview, in consultation with Dr. Dean, who had previously sent the case to Hastings, I found the patient fairly nourished, though very flabby, the skin clammy, complexion sallow, with dark rings under the eyes, and the pupils widely dilated. The tongue was large, marked with the teeth, and thickly furred. Breath very offensive, pulse small and hurried. Thoracic organs normal. Abdomen full, distended with flatulence, frequently expelled as ill-smelling eructations, but without relieving the constant palpitation which alarmed the patient. Nausea, headache, frontal and temporal, constipation, and sleeplessness were the chief features in the sufferer's complaints. On admission the weight was 10 stone; height, 5 feet 7 inches.

After ten days' massage, the patient experienced a desire to relieve the bowels, which he had not previously felt for many months, and, an examination *per rectum* revealing the presence of scybala, these were removed, and were followed by a copious action. I had anticipated much from such an unloading of the lower bowel; but the general condition remained unchanged, the patient obtaining no more than three or four hours' sleep nightly, and still suffering from nausea, flatulence, and headache, while the breath and tongue continued foul.

About the twenty-fourth day of treatment, the headache, previously constant, became less marked and intermittent; relief from the bowels was obtained every morning, and gradually the length of sleep increased, while abdominal massage caused the expulsion of much flatus, which ceased to accumulate to the same degree as before. On the thirty-third day of treatment, I find, on reference to my note-book, that the patient had slept nine hours, complained little of headache, the tongue was slightly furred; no palpitation or discomfort after food, though the diet now consisted of three pints of milk, one pint of meat-juice, with cocoa, toast and butter, and a lightly poached egg for breakfast; meat, green vegetables and stewed fruit for dinner. From this date improvement was steady, the patient became cheerful, his whole aspect was changed; and on the fifty-sixth day, having spent six hours daily in carriage and active exercise for ten days, he left for a sojourn in the highlands of Switzerland, at the suggestion of Dr. Gamgee, travelling through to Bâle, a journey of nineteen hours, without any untoward result; and in a letter dated July 9th, the patient describes himself as a different man, taking long walks and enjoying them.

I have selected the foregoing cases from those which my note-book contains as both before and during treatment they have been under the observation of Dr. Brunton in the one case, and Dr. Gamgee in the other, who kindly watched their progress while under my care, and to whom I am indebted for these and other opportunities for the practice of massage.

Of the remaining cases of atonic dyspepsia subjected to massage with the best results it is not possible, within the limits of this paper, to give the details even in the abridged form adopted in the description of those just cited; but, briefly, I would say that, with three exceptions, all the dyspeptics on whom I have practised this plan of treatment have regained their power to digest and assimilate food. Four of them were City men, who, under the combined influence of business-worry, irregular meals, frequent "pick-me-ups," and no exercise, lost the clear head, good digestion, and dreamless sleep needed in order to carry out the complicated mysteries of which, to the uninitiated professional mind, the commerce of the present day appears to be made up. It may be that the enforced rest and absence from business will be regarded as a potent factor in the restoration to health which it is sought to be shown is justly attributable to massage; but as to that, two of my patients transacted business during the progress of the treatment; and although some amount of worry invaded the sick rooms, both of these gentlemen were restored to better health than they had enjoyed for some years, and, as I have since learned, are no longer harassed by the ills which chronic dyspepsia had previously entailed.

Reference has been made to certain cases of chronic gastritis, in which massage has proved useful, and in order to illustrate its employment in this connection, I will ask your indulgence while in a very few words the effect of the treatment adopted in what bid fair to be a very troublesome case is recorded. The patient, a florid, fair complexioned man, aged 35, somewhat inclined to be stout, but with very ill-developed and, flabby muscles, was sent to me by Dr. Ferrier, who had seen the case for the first time three days previously. He was in an extremely irritable condition, the face congested, conjunctivæ suffused, pupils dilated, and with a wild distressed expression of

countenance. The tongue was thickly coated with white fur, the tip and edges raw and angry, such as one sees in gastritis; the hands were very tremulous, and the patient was altogether in an excitable, restless condition, much resembling the first stage of *delirium tremens*. He complained of constant nausea, palpitation, a sinking sensation in the epigastrium, and declared that for six months he had not been free, to use his own words, "from a constant fearful feeling of sickness day and night," which had come on intermittently three months before. For twelve years there had been dyspepsia, for which he had consulted several physicians, both at home and on the Continent; a visit to Kissingen six years ago had improved the digestion for a short time, but Carlsbad had made him worse. Professor Leube, of Würzburg, had washed out the stomach, and declined to treat the case, on which the patient returned to England, and, under the impression that nothing could be done by medical science, he began to resort to beer and spirits in order to temporarily relieve his discomfort; this, of course, aggravated the suffering and affected his nervous system as I have described, at the same time increasing, if it did not actually set up, the condition of gastritis, which was the most prominent feature in the case, if we exclude the absolute insomnia from which both the patient and his friends alleged that he suffered. The abdomen, on admission, was much distended; there was tenderness over the stomach, as also over the last dorsal spine, while the whole surface of the trunk and limbs was hyperæsthetic, and the back was covered with acne.

On admission the patient was placed in bed, and half a pint of iced milk given every three hours to be slowly sipped; abdominal massage was vigorously performed for twenty minutes, with the result of reducing the pulse from 96 to 70 beats per minute, and the respirations from 36 to 20; gentle effleurage of the spine concluded the evening sitting. A draught of thirty minims of paraldehyde, with twenty grains of chloral, failed to produce any sleep that night.

On the following day the same diet was given; abdominal massage was performed in the morning after a bath, in the afternoon, and again at night, for twenty minutes on each occasion, the back being also kneaded morning and night for ten minutes. Flatus was expelled after each sitting, the abdomen being reduced from forty-five to thirty-eight inches during the day. That night there were two hours of sleep without drugs, the nausea still continuing; on the third night four hours, still nausea; on the fourth and fifth the same amount of sleep, the treatment continued as on second day.

On the sixth day there was what the patient called "cramp in the stomach," the icing of the milk was therefore stopped.

On the eighth day my note says: "Last night slept seven hours without waking; nausea no longer constant; relief from bowels once this morning; tongue cleaner; hyperæsthesia less." General massage once daily, in addition to previously recorded abdominal and dorsal kneading, was now performed.

On the eleventh day of treatment the note is that the patient "has slept well eight hours for the last three nights; tongue cleaning; bread and butter with three of the meals."

On the twelfth day nausea slight; sleep not so good last night.

On the twenty-third day I find that the patient has slept eight or nine hours every night since the twelfth; that the diet, which was gradually augmented, now consists of four pints of milk, bread and butter, and half a pint of beef-tea; the face is no longer livid, tremulousness has ceased, and nausea is rarely complained of.

A week after, the number of sittings was reduced to one every morning and evening, the patient walking a little in the open air daily. A meat meal was now given in the middle of the day, and the quantity of milk reduced to one quart. From this time the progress of the patient towards recovery was steady and unimpeded; he was able to spend some hours daily at the piano, on which he was a performer of no mean merit; a visit to the American Exhibition produced no more than ordinary fatigue; and from an irritable, restless, and difficult invalid, who felt and looked wretchedly ill, this patient became a genial, witty, and agreeable guest.

This is a fairly typical example of what a methodical application of massage will effect in cases of chronic gastritis, and, while practising this treatment on patients whose sufferings have been but slightly, if at all, relieved by other means, one has learnt to regard it as a therapeutical agent of great value when rightly used and skilfully applied.

BEQUESTS AND DONATIONS.—The Goldsmiths' Company have given £50, additional, to the National Hospital for Consumption at Ventnor.—The Northampton General Infirmary has received £100 under the will of Mr. Benjamin Rust.—The Swansea Hospital has received £100 under the will of Mr. James Michael.—The Salisbury Infirmary has received £100 under the will of Mrs. Paxton.

SECTION OF OPHTHALMOLOGY.

Colour Blindness and the Mercantile Marine.—Mr. BICKERTON read a paper, which is printed in full at page 498.—Dr. ARGYLL ROBERTSON expressed the high sense he entertained of the excellence of Mr. Bickerton's paper, which discussed a subject of very great importance to the safety of the community at large, as well of interest to ophthalmic surgeons. He quite agreed in the necessity of subjecting all those who desired to enter the Mercantile or Royal Navy to a careful and efficient test as to colour perception at the very commencement of their career, but he further was of opinion that a periodic examination of the colour sense should also be instituted, so as to detect the defect of colour sense which may exist in certain amblyopic affections, particularly those due to abuse of tobacco. This was brought forcibly to his attention in connection with a case he had very recently under his care, of a pilot suffering from tobacco amblyopia, with moderate impairment of acuteness of vision, but with marked central colour scotoma to such a degree that green could not be perceived at all, while red could only be imperfectly recognised peripherally. This man simply came on account of his vision not being so sharp as before, and scouted the idea that owing to his inability to distinguish colours he was not fit to discharge his duties. He trusted this important subject would ere long be thoroughly attended to by Government, and efficient means taken to ensure the safety of travellers and the seafaring community.—Mr. NETTLESHIP expressed the opinion that evidence should be collected as to accidents which had actually happened from mistakes as to the colours of signals.—Mr. STORY suggested that the most practical method of dealing with the question was to induce the member for some seaport town to move for a Select Committee of the House of Commons upon the subject.—Mr. J. E. NEALE (Natal) mentioned that he had tried to test the colour vision of men employed on the Natal Government Railway, but had not been given permission to do so. The investigation would have been interesting also, as testing the relative colour vision of Europeans, Indians, and Kaffir tribes. The two races dressed very differently, the Indians in colours, the Kaffirs in none.

SECTION OF PSYCHOLOGY.

Folie à Deux. By D. HACK TUKE, M.D.—The difficulty of finding any English term as a synonym was pointed out. "Double Insanity" would suggest "Folie à Double Forme," with which it had nothing in common. "Communicated Insanity" would be the best, although it failed to cover certain cases which are usually included, but in which it cannot be said that the disorder was communicated from one to another. They occurred, it might be, from the grief caused by a member of a family becoming insane, or from the strain of nursing an insane patient. Then there were the cases in which two or more become insane instantaneously from the same cause. *Folie à deux* must in fact be extended in its range beyond two. There is nothing sacred in this number; when three or four are attacked through contagion, the principle is the same. The term itself is therefore unnecessarily restricted. A fourth class includes cases in which one lunatic infects another lunatic with his special delusion. Lastly, the insanity of twins may be referred to the category of so-called *folie à deux*, if one admits a *rapprochement* between them, even when they have not been together at the time of the attack. Cases under each head were given, and the following points were mentioned as being necessary to bear in mind. Are the patients members of the same family? Is there an insane inheritance? How soon after the attack of the first patient did that of the second occur? How long did they associate? To what extent did the passive subject develop symptoms resembling those of the active agent? Were they separated, and what was the after-history of the patients, more especially that of the second or passive subject? The author of the paper believed that the influence of the insane upon the sane was exceptional; that those who become insane from association with the insane are usually neurotic subjects, or somewhat feeble-minded; that women become so affected more frequently than men; that delusions possessing some apparent groundwork or plausibility are the most commonly transmitted; delusions of persecution and the like are often seen in these cases. The explanation of communicated insanity was but an extension of the acknowledged influence of one person exerted upon another in health, for good or for evil. Among the practical conclusions of the paper were: that medical men ought to be alive to the considerable danger of one insane member of a family endangering the mental health of another member. One sister should not nurse another sister when the latter becomes insane. Susceptible young women, whether related or not, should not associate intimately with lunatics. When mental disorder is transmitted, or when, from whatever cause, persons who are associated together become deranged, prompt separation should be effected,

and complete change of scene secured.—The PRESIDENT (Dr. Gasquet) thought it a question whether all but the first category should not be excluded. Another name would probably be better for this reason; for instance, "associated insanity" had been mentioned and he was of opinion that greater stress might have been laid on action and reaction.—Dr. WIGLESWORTH thought that a different name for this class of cases seemed desirable, for whether one person or two or a million were affected would seem to be a matter of accident. He was disposed to say that there was no essential difference between an ordinary case of the affection, such as those described, and the spread of religious delusions, such as the infection of the followers of Mahomet by his delusions. Persons who were related to each other would be most liable to be affected, because of the inherited tendency to the same modes of thought. The cases in Dr. Tuke's second class, in which one person became insane from shock from visiting another, hardly seemed to come under this category.—Dr. RINGROSE ATKINS desired to join with the preceding speakers in expressing the pleasure with which he had heard Dr. Tuke's paper. "We in Ireland have," I believe, he said, "less opportunities of observing cases of *folie à deux* than our brethren in England, as cases of organised delusion, which, as Dr. Tuke has pointed out, are so prone to communicate themselves to others, are less common with us. In relation to the cases of sympathy of ideas referred to by Dr. Savage, I call to mind the instance of a brother and sister, both suffering from lateral curvature of the spine, who have a remarkable sympathy between each other; when the sister living in Ireland suffers, the brother in England suffers also, and the sister is conscious of his suffering. I have had a case under my care—a member of the Royal Irish Constabulary—who brought a patient to the asylum, and who was so affected by coming there that a few days after he himself became insane, and was admitted to the asylum." In reference to the communicability of insanity, it was, he thought, remarkable how few cases occurred among the attendants. He had seen a communication of *bizarre* expression and motion, but in such instances the subjects would recognise their peculiarities if their attention was called thereto.—Dr. CONOLLY NORMAN had known a considerable number of attendants who had suffered from attacks of insanity. He mentioned a case of insanity in twins, breaking out almost simultaneously, and referred to a case where a family of four, two sons and two daughters, had become insane simultaneously, apparently in consequence of religious excitement (a revival movement). Three committed suicide, and the fourth, who still survives, had for years suffered from persistent, intense melancholia, with constant attempts at suicide.—Dr. O'MEARA (Carlow) speaking with regard to this liability of attendants in asylums, said that within a period of thirty-one years, during which he had been in attendance at an asylum, two female attendants had become insane. The hereditary tendency to insanity no medical man doubted; of one family of six persons, all to his knowledge became insane, and if relatives became insane the same class of ideas or delusions would be likely to be developed by brains similarly organised in their minute structure.—Dr. DRAPES said: As my experience as to the frequency of the occurrence of *folie à deux* in this country somewhat differs from that of my friend Dr. Atkins, a number of instances having come under my observation during the past few years, a few remarks from another Irish superintendent may not be out of place. Briefly, one of the instances I allude to was that of two brothers and a sister, who were admitted into the Enniscorthy Asylum within two days. Here I scarcely think there was sufficient time for the excitation of insanity by communication of morbid ideas; and I am disposed to regard it as an example of a sudden explosion of insanity in persons of very similar cerebral structure and organisation, placed in identical circumstances, and exposed to some common cause of mental disturbance. Their insanity took the form of acute mania in all, and all recovered rapidly within a very few weeks. There was a history of all of them having taken drink a few days before admission, but none of them were habitual drinkers, and all were robust and very powerfully built. Another case was that of two brothers, who were admitted together, one of whom had always been somewhat deficient, but had become rather worse latterly, when his brother suddenly became affected with acute mania. He proved much the more serious case of the two, and afforded for some months after a typical example of stuporous insanity. He became perfectly mute, wasted rapidly, had to be forcibly fed, suffered from gangrene of toes and associated pyæmic abscesses, but finally recovered and was discharged. His brother is still a patient, but must rather be classed as a case of erratic temperament than as actually insane. Another instance was that of a mother and daughter, who became insane shortly after the return home of a second daughter from the asylum, and the recurrence of her insanity within a few weeks. In this instance one daughter was affected with pro-

found melancholia, the other daughter and mother with acute mania. I do not know that there is any record of the occurrence of insanity in one of twins physically united like the Siamese twins, but I think it is a warrantable presumption that if one of such became insane, the insanity of the other would certainly follow. This, of course, is an extreme and rare instance of physical union between two individuals; but probably in those cases of twins, such as described by Mr. Galton, whose lives present an exact parallel, and Dr. Savage has given a most interesting example of the same, there is originally an almost identical cerebral structure, and a physical union and sympathy almost as intimate as if they were physically connected. —Dr. LYLE agreed with Dr. Tuke that contagion was rare in insanity; at the same time, such cases were occasionally seen. A short time ago a patient was admitted under Dr. Lyle's care who had made an attempt to shoot himself with a revolver. A relative of his took the patient's business (which was that of a merchant), within a fortnight he shot himself, and most successfully. As these events took place in a small town, they caused some excitement; but this was not all, as within a week's time another merchant, who was a neighbour, also shot himself. In none of the cases was insanity hereditary.

On the Use of Galvanism in the Treatment of Certain Forms of Insanity. By JOSEPH WIGLESWORTH, M.D. Lond., Rainhill Asylum. —The observations of previous writers were referred to, and the uncertainty that hangs over the subject pointed out. There was the more need for a thorough examination of the question, as of late years the improvement in medical batteries, and the introduction of apparatus for measuring the strength of the currents used, had rendered it possible to approach the question in a more scientific manner than hitherto. The battery employed in the author's experiments was a continuous current one, of fifty Leclanché cells, which was fitted with an absolute galvanometer graduated in milli-amperes. The necessity for bringing the cells very gradually into action was pointed out, and the accurate registration of the strength of the currents used was considered to be a matter of great importance; this, at all times advisable, was especially necessary when operating upon the insane, whose sensations are so frequently deadened, but who enjoyed no immunity from the formation of eschars. The electrodes, employed were the flexible plate ones, recommended by Dr. de Watteville; medium sized ones $3\frac{1}{2}$ by $2\frac{1}{2}$ inches, were at first used; the kathode being placed on the forehead, and the anode on the nape of the neck; in the later experiments a very large plate $6\frac{1}{2}$ by $5\frac{1}{2}$ inches, adapted to cover accurately the whole of the vertex of the head, was used as the kathode. The cases of eleven female patients who were submitted to this treatment were then narrated, of which the following is a brief summary. —No. 1. Married; aged 23. Acute dementia of six months' duration. Medium sized plates used; kathode to forehead, anode to nape of neck. A current strength of 3 milli-amperes was used to begin with, and this was gradually increased to 25, the average being 15 milli-amperes for ten minutes. Usually there was a daily sitting, but sometimes a rest was given of one or more days, so that 60 applications were spread over a period of three months. After 27 applications the patient became brighter, and in another three weeks had improved considerably; from this time the patient continued to progress gradually, but steadily, to complete recovery. —No. 2. Single; aged 15. First attack. Melancholic stupor of eleven weeks' duration. Electrodes as in previous case. Current strength used, from $3\frac{1}{2}$ to 20 milli-amperes, the average being 12, for ten minutes. Number of applications, 22; spread over a period of six weeks. After three weeks' treatment, mental condition underwent a change to mild mania, from which the patient convalesced about two months afterwards, and was discharged recovered. —No. 3. Widow; aged 20. Simple melancholia of two years and two months' duration. Medium-sized plate (kathode) placed on forehead as before, and large plate $6\frac{1}{2}$ by $8\frac{1}{2}$ inches (anode), applied to nape of neck. Current strength, 5 to 14 milli-amperes, the average being 7, for ten minutes. Sixteen applications during 23 days. Great and rapid improvement, the patient being practically well six weeks after the galvanisation was started. —No. 4. Married; aged 44. Melancholia of six weeks' duration. Electrodes as in the last case. Current strength, 5 to 20 milli-amperes; average, 17, for ten minutes. Twenty-six applications during 27 days. No benefit. —No. 5. Married; aged 28. First attack. Melancholia agitata of three months' duration. Current strength, 5 to 20 milli-amperes; average, 14 for ten minutes. Twenty-six applications in the course of one month. No benefit. —No. 6. Married; aged 25. Second attack. Melancholia of seven months' duration. Average current strength, 7 milli-amperes, for eight minutes. No benefit. —No. 7. Married; aged 29. Melancholia of five and a half months' duration. Electrodes as before. Current strength, 4 to 20

milli-amperes, the average being 15, for ten minutes. Thirty-one applications in five weeks. No benefit. —No. 8. Married; aged 33. Melancholic stupor of two months' duration. The largest plate, $6\frac{1}{2}$ by $5\frac{1}{2}$ inches, adapted to cover the vertex of the head, was applied to this region, and used as the kathode, the large plate (anode) on the nape of the neck being used as in the last cases. Current strength, 8 to 20 milli-amperes; average, 15 for ten minutes. Thirty-five applications in two months. Improvement commenced in a month, and continued steadily to complete recovery. —No. 9. Single, aged 30. Melancholic stupor of nine months' duration. Electrodes as in the last case. Current strength, 5 to 15 milli-amperes; average, 9 for ten minutes. Seventeen sittings; no benefit. —No. 10. Married, aged 27. Melancholic stupor of three months' duration. Largest electrode to vertex of head, as in the last case, the scalp having been first shaven. Current strength, 5 to 40 milli-amperes; average, 22 for twelve minutes. Eighty-one applications in six months. In addition to uniform application of current, "voltaic alternatives" were used on thirty-two occasions. Patient was distinctly improved, but could not be got to advance beyond a certain point. —No. 11. Single, aged 20. First attack. Melancholic stupor of five weeks' duration. Electrodes as in the last case. Current strength, 6 to 28 milli-amperes; average, 18 for ten minutes. Forty applications in seven weeks. No benefit at first, but shortly after galvanism was stopped improvement set in, and patient was well in three months. To sum up: three cases were cured, three were improved, and in five no benefit resulted. Three recoveries out of eleven cases appeared a small proportion; but it had to be remembered that several of the cases operated on were picked out because they were examples of insanity of considerable severity or long duration, in order that the efficacy of the treatment might be subjected to a thorough test. The class of cases in which galvanism was tried was indicated in the list. Cases of mental depression, stupor, and torpor appeared to offer the best field for its use, and to these observations had been mainly restricted. In one case, in which excitement was present, the treatment appeared to do more harm than good. The more the case departed from simple depression, in the direction either of stupor or torpor, the more good did the treatment seem to do. Case No. 3, indeed, was a notable example to the contrary, as here the good effects seemed to be more psychical than physical. The treatment in this case appeared to do good by setting up a sort of reflex mental stimulus to exertion, and this suggested that galvanism employed with this object might in certain appropriate cases be turned to good account. As a rule, however, the physical effects of the current were what had to be depended on; and it probably acted by producing a stimulating effect on the nervous centres, and at the same time improving the nutrition of the parts. The possible influence for harm of galvanism was commented on, and it was pointed out that the agent was one requiring careful employment. The general conclusions drawn were: that, whilst galvanism to the head was a method of treatment which was not going to revolutionise the treatment of insanity, the agent was nevertheless one which was capable of doing a good deal of good in certain selected cases; and that the cases which offered the best field for its employment were those of mental stupor and torpor—cases grouped under the specific designations of melancholia attonita and acute dementia. —Dr. URQUHART expressed pleasure at hearing the results of Dr. Wiglesworth's experiments. He inquired as to the necessity for large plates, inasmuch as the current spreads in going from one pole to the other, and also if the resistance was calculated. He described Gaiffe's battery, which could be kept in order by anyone taking an ordinary amount of interest in it. He detailed a case of hypochondriacal melancholia, which was verging on chronicity, and recovered under the application of galvanism. —Dr. SAVAGE said that, in his experience, batteries were still very disappointing. They worked well for a week or two and then failed, thus causing disappointment, and leading to disgust and disuse. His experience related to the "pre-scientific day," and was, therefore, not worth much; yet, such as it was, it coincided with that of Dr. Wiglesworth, with regard to stupor, simple melancholia, and the like. He used it also, like shower-baths, as a stimulus. He had not found any good to follow galvanisation of the abdomen in cases of obstruction. He concluded by expressing his thanks to Dr. Wiglesworth for the excellent piece of work he had done. —Dr. HACK TUKE mentioned a case of stupor in a young lady, in which he had persistently used the constant current, but without effect. He had always thought there was strong *a priori* reason for expecting good results from galvanism in cases of mental stupor. He referred to the modified good effects obtained from the electric bath. Professor Ball, of Paris, had recorded in *L'Encephale* some striking cases of cerebral torpor which he treated by galvanism, and with very

satisfactory results. He (Dr. Hack Tuke) thought Dr. Wigglesworth had, on the whole, given reasons for encouragement, although not to so great an extent as he had hoped.

Insanity following the Use of Anæsthetics. By GEO. H. SAVAGE, F.R.C.P., Bethlem Hospital, London.—There was difficulty in giving just value to various causes of an attack of insanity. One cause alone was very seldom the efficient cause. Predisposing causes might exist for long periods before an exciting cause developed the disorder. Various agents which produced temporary disorder of mind might also produce more or less permanent disturbance of mind: 1, any cause which could produce delirium or allied states might start insanity; 2, such insanity frequently assumed a delirious type; 3, such insanity might be transient, or it might be persistent, or might lead to progressive dementia and general paralysis of the insane. Alcohol might cause temporary delirium, which might pass into mania; various forms of alcoholism might end similarly. Delirium, started by fever, might set up acute mania (delirious). Delirium, started by belladonna, might set up acute mania (delirious). Shock, as from operations, might act similarly. Chloroform, given to a patient recovering from mania, might redevelop his mania. Chloroform given to a patient recovered for two years started a fresh attack of mania. An old man who was operated upon under ether, remained in a silly, demented state for some weeks, and recovered as suddenly as he became ill. A lady of neurotic type developed acute delirious mania after the administration of nitrous oxide. Dr. Savage had met with a good many cases of insanity after grave operations, like ovariectomy, but their relation to the anæsthetic was not clear. After some of these cases, 'progressive dementia, which ended fatally, had developed. After some cases of labour without special complication, in which chloroform was given, insanity had occurred, though other deliveries, before and after, had been free from any such complication. In most of his cases, inherited or acquired neurosis was present. He considered that a history of neuroses should influence surgical opinion.—The PRESIDENT (Dr. Gasquet) thought the parallel which might be drawn between the action of anæsthetics and that of alcohol on febrile disease was strongly in favour of Dr. Savage's contention, but that it hardly proved that shock and the prolonged mental strain before an operation were sufficient to produce the insanity. It might be asked, what was the effect of chloroform and nitrous oxide on the inmates of asylums? Did these anæsthetics light up maniacal symptoms in chronic lunacy? He had seen one case of delirium after nitrous oxide where there was rapid recovery, and the dentist had impressed on him that such conditions were not rare.—Dr. CONOLLY NORMAN, having briefly referred to the originality of Dr. Savage's paper, said that he had heard with some surprise that so many of Dr. Savage's cases suffered from so severe a form of insanity as acute delirious mania, but the details sometimes left no doubt as to the correctness of the title. Dr. Norman confirmed Mr. Savage's observation on hysteria frequently following from chronic drinking. He was much pleased to hear Dr. Savage's reference to an acquired predisposition to insanity, which was quite as real a thing as hereditary predisposition, though hitherto little recognised by writers in this country. Intolerance to alcohol, to which a reference had been made, was a well-marked token of neurotic predisposition, whether hereditary or acquired. He referred to a recurrent case in which chloroform and ether had been administered during an interval of apparent perfect sanity. While under the influence of the anæsthetic, the patient, who was not delirious in the ordinary sense of the word, gave expression to delusions of a persecutory type. When the narcosis passed off, sanity again seemed perfect.—Dr. WIGGLESWORTH said he had been most interested in Dr. Savage's cases, as they confirmed some theoretical observations he published some years ago on the pathology of mania. In that paper he drew a parallel between a case of mania and the temporary excitement produced by anæsthetics, and said that a patient, the subject of chloroform narcosis, might be looked upon as suffering from a transitory attack of mania; the explanation being that the highest and latest developed, and therefore most unstable, cerebral centres are first affected, and being as it were thrown out of gear, the lowest centres were no longer controlled, and therefore acted with undue vigour, it being from the activity of these lower centres that the maniacal manifestations resulted. One would expect that the insanity in all this class of cases would take the maniacal form. In giving ether to a number of insane women for the purpose of uterine examination, he had once or twice seen an increase in maniacal excitement for two or three days, but no distinct development of mania from any other form of insanity.—Dr. TUKE said that the parallelism drawn by Dr. Savage between the effects of anæsthetics and insane symptoms was illustrated by a case of epilepsy he knew. An epileptic gentleman had occasion to take

chloroform, and experienced precisely the same symptoms as he had during conscious stages of his fits. He said they were of a dreadfully depressing character. Almost the first case of insanity he (Dr. Tuke) had known was caused by laughing-gas taken as an experiment at a time when it was fashionable to do this. This patient remained a lunatic all his life, the attack occurring soon after taking the nitrous oxide. The subject of Dr. Savage's paper was very practical, as illustrated by a case of his own, in which he was consulted whether it was wise to operate for hæmorrhoids in a case of recurrent insanity. He decided, whether wisely or not, to advise against the operation, although great relief would have doubtless been obtained by the removal of the piles.—Dr. ASHE thought that Dr. Savage's generalisation with regard to chloroform ought to be received with caution. He had known a case in which puerperal insanity had occurred in a primipara, chloroform not having been given; whereas in several subsequent confinements chloroform had been used to a considerable extent, but the puerperal insanity had never again made its appearance. The patient had some hereditary proclivity to insanity, but Dr. Ashe thought that the employment of chloroform had rather proved a preventive of a recurrence of the mental affection.

Case of M. R., a Medico-Legal Study. By R. KINKEAD, M.D., Professor of Medical Jurisprudence, Queen's College, Galway. (Read, in the unavoidable absence of the author, by the Local Secretary).—A woman who had been for eight days and nights continuously in attendance on a case of typhus fever was believed to have indulged in alcoholic excess. On the eighth night the relatives of the fever patient, being awakened by the nurse's screams, found her throwing coals on the patient, who was surrounded by burning fuel as he lay on the floor. The nurse spoke in an incoherent way of having burned the Devil out of the patient and restored the real man. It would appear that the unfortunate man was by this time dead. Certainly life was extinct when he was removed from the fire. The question that arose was whether the patient had been dragged out of bed by the nurse and deliberately burned to death, or whether death was accidental. In the former event, was the nurse insane or drunk? Dr. Kinkead was of opinion that the nurse was worn out by watching, and that, having drunk more than was good for her, she fell into a heavy slumber. Her patient got out of bed, fell into the fire, and died either on the spot or immediately after. When the nurse awoke, and saw her patient lying in the fire, she fancied in her confusion that he was the Devil. When seen subsequently by Dr. Kinkead, she exhibited no signs of insanity. An interesting question arose in reference to Chief Baron Palles' charge at the trial, in which a view of responsibility during alcoholic intoxication was expressed diametrically opposed to that of Mr. Justice Day in a recent well-known case. The jury found that the woman was guilty of manslaughter, but was insane at the time of committing the act.—The PRESIDENT (Dr. Gasquet) pointed out that the previous mental state of the accused was not mentioned in the report. The unsettled legal point seemed to be as to a person who became intoxicated by taking an inadequate amount of alcohol, owing to special circumstances.—Dr. HACK TUKE was inclined to think that the conclusions arrived at by the author were correct. He was satisfied that the man left his bed and fell on the fire, so as to become charred. The nurse after awhile awoke, muddled with whisky, and suffering from a week's sleepless nights of nursing. She naturally concluded that the blackened face was the Devil's, and her subsequent actions followed either from some superstition she entertained, or from a sudden idea arising in the mind of an ignorant, half-awake, and intoxicated woman. The woman's heaping coals of fire upon the patient's head was a singular mode of carrying out the scriptural command, and one which he (Dr. Tuke) had not met with before. As to Mr. Justice Day's ruling, he understood him to go the whole length of saying that, whether from drink or not, a man is irresponsible so long as he does not know the nature and quality of the act which he commits.—Dr. CONOLLY NORMAN agreed in a general way with the very ingenious view of Dr. Kinkead on this case. It appeared to him that the woman's condition was a good example of that state which the Germans call *Schlaftrunkenheit*, a state of mental confusion occurring immediately after awaking, and lasting, in certain pathological conditions, for a considerable length of time. This state would be expected in the case of a person who slept heavily after long watching. *Schlaftrunkenheit* was also peculiarly liable to occur after the sleep following alcoholic intoxication. This was the woman's true condition, whether she put the living man into the fire, or merely laid fire upon the dead body. The case was also highly interesting as bearing upon the question of intolerance of alcohol and what Krafft-Ebing has called "pathological intoxication."—Dr. SAVAGE said that he thought it was generally understood that Mr. Justice Day ruled

that when anyone was unconscious of the nature and quality of his act, whatever the cause, he was irresponsible. No difference was to be made as to how or why, he, being unconscious, was also irresponsible. The ruling was startling and novel, and had not been generally accepted.

Expectancy as an Element in the Exaggeration of Railway Injuries, Real and Imaginary. By H. C. TWEEDY, M.D., Physician to Stevens' Hospital.—In this paper the influence of imagination in producing physical phenomena was described, and instances given where not merely sensations of pain resulted from unreal impressions, but actual changes of structure as well as function. The success of quacks, charmers, etc., was shown to be frequently due to the faith placed in the representations of the performers. Having shown the power of expectancy, the writer proceeded to develop the probability that expectancy plays a very important part in cases where shock, as the result of accident, has been sustained, or even where nothing worse than a fright has been produced. That the suspense of an impending trial may prolong the ill-effects of a concussion, even in a conscientious person, is only what might naturally be expected. Suggestions were given to gauge the real from the seeming results after accident, by showing how to discount whatever is due merely to mental strain, suggestions of *ex parte* medical opinions, hysteria, etc. A further section of the paper dealt with the modes by which fraudulent exaggeration may be detected and exposed. The rules that should guide prognosis were detailed, and in the last part it was urged that in disputed cases the assessment of damages should be made as speedily as possible, not merely in the interest of the railway company, but of the patient. The writer held that not merely would the injury sustained be estimated with less risk of self-deception, but that recovery would be less likely to be retarded by the mental strain. It was finally suggested that independent experts ought to be employed, whose testimony would be free from the imputation of serving the side which summoned them, or else that, as in Admiralty cases, a specialist assessor should assist the Court in assigning due weight to the often conflicting evidence of medical witnesses.

(To be continued.)

THERAPEUTIC MEMORANDA.

TINCTURE OF SIEGESBECKIA ORIENTALIS IN RINGWORM.

SINCE my short article on Tincture of Siegesbeckia Orientalis in Ringworm appeared in the JOURNAL of June 25th, I have received quite a number of letters from all parts of the country, asking me if there is any danger to be feared from the use of the remedy, if any constitutional symptoms are likely to arise, or if the affected part requires to be cleaned in any way before the drug is applied. I have answered all the queries addressed to me, but as letters are still coming in, it would save me an amount of trouble if you would kindly find space for these lines, and at the same time set at rest the minds of many who may at present be testing the efficiency of the drug. So far as my researches have carried me there is no danger—either local or constitutional—to be apprehended from the free use of siegesbeckia. I never prepare the affected part, as I find that the mixture cleans the place, while at the same time it kills the parasite. The red blush which is produced during the application, and which causes an amount of alarm in some people, is of no moment, and I never found it remain more than a day or two after the medicine was stopped. Though my usual prescription is tincture of siegesbeckia and glycerine equal parts of each, I see no reason why in obstinate cases the siegesbeckia might not be increased to three-quarters and one quarter of glycerine. The tincture as supplied to me by Messrs. Thomas Christy and Co., London, is of the strength of 1 in 8, but if found necessary a stronger preparation could be made up, say 1 in 5 or thereabouts. I have had good results from the tincture of 1 part in 8, and have not yet seen any reason to have it made stronger. To use the drug properly, it must be well rubbed into the diseased portion of the skin several times a day, not merely painted on.

J. HUTCHISON, M.D., Physician Anderson's College Dispensary, Glasgow.

ANTISEPTIC CIGARETTES.

SOME few years since Messrs. Corbyn, Stacey and Co. prepared, at my suggestion, some cigarettes of iodoform, carbolic acid, and chlorate of potash for fumigation of the nasopharynx, the basis of which was powdered eucalyptus leaves with some eucalyptol added; of these I found from experience the iodoform were the most useful, the chlorate

of potash did not ignite or draw well, and the carbolic acid were not sufficiently strong. The iodoform cigarettes laboured under the disadvantage of the characteristic odour of the drug being diffused when they were smoked. Also, as has been drawn attention to by Dr. Arthur Hill Hassall in his work on the *Inhalation Treatment of the Organs of Respiration*, the quantity of iodoform contained in these cigarettes was too small. Accordingly, to try to meet these defects I had some cigarettes of iodol prepared, which is said to contain 90 per cent. of iodine. However, I found that, owing to its decomposition with heat, a volatile product of a very pungent and irritating nature, in all probability diiodomethylamine (as has been shown by Wurtz) was given off, which irritated the nasal membrane, and made it impossible to make use of this drug. Therefore, after some experiments with various bases and quantities, Messrs. Corbyn, Stacey and Co. have prepared for me four different forms of medicated cigarettes: 1. Containing eucalyptus and iodoform disguised with vanillin. 2. Eucalyptus with iodo-salicylic acid. 3. Coltsfoot with eucalyptus and iodoform disguised with vanillin. 4. Tobacco, eucalyptus and iodoform disguised with coffee. Each cigarette contains one grain of the active ingredient. I may mention that the iodo-salicylic acid has not the unpleasant odour of iodoform and other iodine compounds, while it is quite as effective on the lower forms of life; under combustion, iodine is evolved. All the cigarettes will be found pleasant to smoke, and the odour of the iodoform well disguised, whilst its presence in the nasopharynx for some time after the cigarette is used may be detected by its taste. Those made with tobacco, eucalyptus, iodoform and coffee are particularly agreeable, and the odour is thoroughly disguised. So indeed is it with those made with vanillin and coumarin, yielding an aromatic vapour which is pleasant rather than otherwise. I draw special attention to these cigarettes, as in the last edition of my book on the ear and nasopharynx I had mentioned my suggestion, namely, the substitution of iodol for iodoform before I was aware of the decomposition above referred to. Half a cigarette is sufficient to smoke at one time. Three in the day are not too many, though the number must be regulated by the prescriber.

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H. MACNAUGHTON JONES.

THE BINIODIDE TREATMENT OF SCARLET FEVER.

HAVING satisfied myself of the value of the biniodide of mercury in the treatment of scarlet fever, I recently tried its effect when applied locally to the inflamed throat. Taking two ounces of the bichloride of mercury solution, I carefully added a few drops of a 1 in 4 solution of the iodide of sodium or potassium, shaking the mixture after the addition of each drop, until I secured a cloudy-red liquid indicative of the precipitation of the biniodide. To this I added half an ounce of glycerine for the purpose of keeping the particles of biniodide in suspension. This mixture I applied twice a day with a straight brush in some severe cases of scarlatina anginosa, with the effect of arresting the inflammatory and ulcerative action in a very short space of time. I also injected some of it up the nostrils in one very severe case, in which the disease had extended behind the soft palate, and was causing profuse discharge from the nose, and with excellent effect. In cases where it might be thought advisable to make more frequent applications to the throat, the biniodide thus prepared might be easily applied by the nurse or mother of the patient with a little help. My practice is to introduce the handle of a tablespoon well back on the tongue, and then to apply the brush rapidly and vigorously to the affected parts of the throat.

I should think that the same application would prove of great service in diphtheria also.

C. R. ILLINGWORTH, M.D.

Clayton-le-Moors.

STROPHANTHUS IN HEART DISEASE.

IT is now two years since Professor Fraser read his paper on the action of strophanthus, at the annual meeting of the Association at Cardiff. His lucid illustrations of the therapeutical action of the drug made a strong impression on my mind and induced me to adopt it in my practice. Having recently had occasion to prescribe it in two cases with excellent results, I take this opportunity of bearing testimony to its action as a certain cardiac tonic and powerful diuretic, with a hope that it may induce others to use it when they find themselves in a dilemma, and feel anxious to resuscitate the failing action of the heart.

I have used it firstly in four cases of angina pectoris, in two cases associated with dilatation of the heart. A fortnight ago I was hurriedly called to see a young man, aged 25, in an agony of pain, with tumultuous action of the heart. Within five minutes of the administration of a five-minim dose his breathing became quiet, pain disappeared, and the rhythm of the heart's action was restored. In two