was continued with two-drachm doses given three times a day.

CASE 75. *Acute dysentery*.—The patient was a young woman aged eighteen years. On May 28th, 1892, she complained of continual straining of stool, passing blood and slime. Two-drachm doses of tincture of monsonia were administered every four hours. I saw the patient again on May 30th, when she was convalescent and said that she began to improve after the first dose and had a refreshing sleep after the second.

CASE 76. *Acute dysentery*.—The patient was a man aged thirty-four years. When seen on Sept. 11th, 1892, his temperature was 101.2° F. The tongue was white with fur at the back; the pulse was 90. He complained of frequent tenesmus, passing very little slime and blood. An acid solution of quinine, containing four grains of the sulphate, was ordered three times a day and two drachms of tincture of monsonia every four hours. After the third dose the blood and mucus disappeared from the motion, which became feculent. On the 12th a powder consisting of eight grains of pulvis ipecacuanhæ compositus and ten grains of pulvis catechu compositus was administered with a drachm of tincture of monsonia, and all the unfavourable symptoms disappeared, and the patient has to my knowledge remained entirely free from dysentery up to the early part of 1896.

CASE 77. *Dysentery and fever*.—The patient was a man, aged thirty-six years, who was seen on Nov. 22nd, 1892. He had malarial fever in 1891 in Madagascar and had frequent relapses. On Nov. 22nd he had a sudden rise of temperature to 105° F.; the tongue was thickly furred and he had distinct symptoms of bilious fever. On treatment the temperature fell to normal, but acute dysentery intervened. Three doses of half an ounce of tincture of monsonia with ten drops of tincture of cardamom were administered at intervals of every four hours. On Nov. 23rd the patient had a fairly good night and felt much better. The motions were feculent, but a little tenesmus still remained. The patient was still very bilious looking. A powder containing four grains of calomel and ten grains of pulvis ipecacuanhæ compositus was given with a dose of tincture of monsonia. The symptoms disappeared, but during the night the patient felt an uncomfortable fulness. An emetic was given, and on the morning of the 24th the patient felt well enough to leave for the low country.

CASE 78. *Dysentery and drink*.—The patient was a man aged thirty-six years. When seen on Nov. 27th, 1892, he was suffering from general debility due to alcohol. At 1 P.M. symptoms of acute dysentery showed themselves, and during the afternoon he had several dysenteric motions. At 6 P.M. his temperature was 98.2° and the pulse 70. A powder containing fifteen grains of pulvis catechu compositus and six grains of pulvis ipecacuanhæ compositus, with half an ounce of tincture of monsonia, was administered, and on the 28th, when I next saw him, the dysenteric symptoms had disappeared. This patient died about a month afterwards from the effects of drink and possibly a return of the dysentery, but as he did not come under medical treatment I cannot say for certain.

CASE 79. *Acute dysentery*.—The patient was a man aged twenty-seven years. When seen on May 12th, 1893, he was suffering from bilious fever and acute dysentery. The dysentery was treated with two drachms of tincture of monsonia, ten minims of tincture of opium, and thirty minims of tincture of catechu every six hours. On May 15th the patient was convalescent.

(To be concluded.)

BEDFORD MEDICAL SOCIETY.—The annual meeting of this society was held at Bedford on Jan. 28th. The following officers were elected for the ensuing year:—President: Mr. R. H. Kinsey. Treasurer: Mr. A. Chillingworth. Secretary: Mr. W. Gifford Nash. After the meeting the members and their friends dined together. During the evening it was decided to send the congratulations of the society to Lord Lister on his elevation to the Peerage.

MEDICO - PSYCHOLOGICAL ASSOCIATION. — The spring meeting of the South-Western Division is to be held in the afternoon of April 27th at Barnwood House, Gloucester. After the transaction of business and the election of members Dr. Soutar will open a discussion on Recoveries in Asylums, and this will be followed by an important contribution from Dr. Goodall on the Systematic Collection of Pathological Data in Asylums.

MASTOID SUPPURATION FOLLOWED BY LATERAL SINUS PYÆMIA, TREATED BY PARTIAL EXCISION OF THE SINUS AND LIGATURE OF THE INTERNAL JUGULAR VEIN IN THE NECK.¹

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WITH
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A MAN, aged thirty-seven years, was admitted to the Batley Hospital, under the care of Mr. H. Keighley, on Nov. 2nd, 1895, complaining of pain accompanied by a foul discharge from his right ear. The family history was good in all respects. The patient, a powerful and healthy man, never remembered having had any ailment apart from a periodic "discharge of matter" from his right ear. This had existed, he was told, from childhood, although he could not say whether it was subsequent to measles, scarlet fever, or other disease of infancy likely to give rise to such a condition. The discharge from the ear occurred two or three times a year and was always preceded by severe headache and pain in the ear. These attacks never lasted long nor did they compel him to give up work, and he used to make a boast to his wife that he always got well without the aid of a medical man, although she had frequently urged him to consult one. The present attack, which was more prolonged than any of the previous ones, and which led up to the operation, commenced in July, 1895. The patient had his usual premonitory symptoms of languor and headache, but the pain was not so severe as on former occasions and only occurred at night. At this time the discharge, which the patient described as "yellow matter," was mixed with blood. He did not leave off work. The ear discharged almost continuously till Oct. 27th, when it suddenly dried up. Three days later (Oct. 30th, 1895) the patient while at work was seized suddenly with a very severe pain extending all over the right side of his head and with a tendency to shivering. He, however, continued working the remainder of the day, but was compelled to remain in bed the following day. On Nov. 1st he was seen by Mr. H. Keighley, who found him suffering great pain in his right ear. There was no discharge from the ear, but the temperature was 102° F. and the pulse 96, the respirations being normal. He was removed to the Batley Hospital. Two days afterwards the patient's condition was much the same, but on the following day the tympanic membrane was seen to be inflamed and bulging, and on being punctured by Mr. Keighley great relief was afforded. The pus which escaped was very foetid. Within twenty-four hours the patient had a most severe rigor in the early morning, followed by a temperature of 105°, pulse 130, and respiration 22; this was followed by a second rigor in six hours and by a third rigor in three hours. In the evening I was asked to see the patient in consultation with the staff of the Batley Hospital, who asked me to operate. I made an incision about two inches long behind the ear, over the right mastoid process. After trephining through hard and dense bone, which could only be perforated by the chisel and mallet, a quantity of very foetid pus escaped; the cavity was well washed out, iodoform applied, and free drainage adopted. The lateral sinus was freely exposed and was bathed in pus, but as the blood was fluid in it the sinus was not interfered with. Directly after the operation and for the next ten days the temperature was quite normal and the patient seemed to be progressing satisfactorily. On the eleventh day he again had a severe rigor and a temperature of 105°, when I was again asked to see him. We decided on a further exploratory operation. By chipping away the bone with a chisel and mallet I freely enlarged the former cavity, when the lateral sinus was found to be black and filled with septic clot; this sinus I freely laid open, and as the walls were septic I removed as much of it as possible and

¹ A paper delivered before the Leeds and West Riding Medical-Chirurgical Society on Jan. 15th, 1897.

thoroughly washed it up to the torcular herophili until blood flowed freely from the distal end of the sinus, which I then plugged with gauze. As I could not clear the lower end so satisfactorily, in order to prevent septic clot being carried into the system I cut down on the internal jugular vein in the neck and ligatured it in two places at an interval of half an inch. After this operation the patient was very comfortable, being quite free from headache and pain. There was no return of the rigors, although the temperature for the next ten days ranged from 96° to 105°, when a quantity of pus escaped from the wound. From this time the temperature remained normal and the patient made an uneventful and complete recovery. The patient is now in good health and well in every respect. For the notes of this case I am indebted to Mr. H. Keighley, who also undertook the entire after management.

The case illustrates the danger of allowing chronic ear-suppurations to go untreated, but it is chiefly of importance because of the radical treatment adopted, not only in clearing out septic clot, but in removing as much as possible of the septic wall of the sinus, and in ligaturing the internal jugular vein in order to prevent particles of septic clot being carried into the circulation and providing fresh foci for blood poisoning.

Leeds.

CATALEPTOID REFLEXES IN THE MONKEY.¹

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A PHENOMENON came under my observation in the course of experiments upon monkeys at the commencement of the present year which seems sufficiently interesting to merit record here. Its occurrence, so long as certain conditions of experiment are maintained, appears regular and predictable. Although the character of the movements executed by the skeletal muscles when excited reflexly through the medium of the isolated spinal cord is variable, one feature common to them is their comparative brevity of duration. Many of them are, as pointed out by Fick and by Wundt years ago, hardly distinguishable in several particulars from the simple twitches elicitable from an excised muscle, so brief and local and incoördinate do they appear to be. Others are more prolonged and, as I have described in a paper recently communicated to the society, exhibit various forms of sequence or "march" (Hughlings Jackson). Without recapitulating the conclusions there drawn from the data given in that paper, I wish here to merely point out that of movements due to purely spinal reflex action, although some are fairly extensive, most are quite short-lasting, and not so prolonged as the longer of those that can be elicited under appropriate conditions from the cortex cerebri; also that if prolonged they, like the final phase of prolonged movements initiated from the cortex, often become clonic or exhibit that kind of action which in the paper referred to above I have designated "alternating."

The reflex movements, the subject proper of this note, are, on the contrary, of extremely prolonged duration, and absolutely devoid of clonic character and of alternating character. If the cerebral hemispheres be carefully removed—e.g., from a monkey—with avoidance of hæmorrhage and of fall of body temperature, and if sufficient time be allowed to elapse for subsidence in the animal of what may be called shock, movements can be evoked remarkably different from those I have ever seen elicitable as purely spinal or as cerebral reactions. If a finger of one of the monkey's hands be stimulated, for instance, by dipping it into a cup of hot water, there results an extensive reflex reaction involving movement of the whole upper limb. The wrist is extended, the elbow flexed, the shoulder protracted, the upper arm being drawn forward and somewhat across the chest. The movement occurs after a variable and usually prolonged period of latent excitation. The movement, although it may be fairly rapid, strikes the observer each time as perfectly deliberate; it is of curiously steady and "smooth" performance. Sometimes it is carried out quite

slowly, and then, as a rule, the extent of it is less ample. The most striking feature of the reflex is, however, that when the actual movement has been accomplished the contraction of the muscles employed in it does not cease or become superseded by the action of another group, but is continued even for ten and twenty minutes at a time. The new attitude assumed by the limb is maintained, and that, too, without clonus or even tremor. In the instance cited—namely, that of the fore limb—the posture assumed suggests the taking of a forward step in quadrupedal progression, and in that posture the animal will remain for a quarter of an hour at a time. The degree of, for instance, flexion assumed in the new posture seems much dependent on the intensity and duration of the stimulus applied. If the degree is extreme the attitude of the limb may not be maintained to its full extent for the time mentioned; thus the elbow, at first fully flexed, will in the course of a minute or so be found to have opened somewhat. This opening can be often seen to occur *per saltum*, as it were, but the steps are quite small and recurrent at unequal intervals of between perhaps a quarter of a minute and a minute. After some relaxation from the extreme phase of the posture has taken place the less pronounced attitude—e.g., semiflexion at the elbow—may persist without alteration obvious to inspection for ten minutes or more. Apart from the occasional step-like relaxations the contraction of the muscles is so steady as to give an even line when registered by the myograph. A renewed stimulation of the finger excites further flexion, which is maintained as before in the way above described. The posture can be set aside without difficulty by taking hold of the limb and unbending it; the resistance felt in the process of so doing is slight; the posture thus broken down is not re-assumed when the limb is then released.

Analogous results are obtainable on the hind limb. Hot water applied to a toe evokes always, so far as I have seen, flexion of ankle and knee; usually of hip also. This movement is "deliberately" executed and always institutes a maintained posture. If the finger (or toe) of both right and left limb be placed together in the hot water there results symmetrical reflex movement of both the right and the left fore limbs (or hind limbs), leading to assumption of a fairly symmetrical posture by the right and left limbs respectively, the posture being similar to, but duplicate of, that evoked in the one limb only on excitation of that limb. This may appear a self-evident sequel to the observation given earlier, but is not so when an observation immediately to be mentioned is taken into consideration.

Not the least interesting part of the reflexes under consideration is a remarkable glimpse which they allow into the scope of reflex inhibition as regards the coördinate of movements of the limbs. Although the posture taken up by the right fore limb consequent upon excitation of a finger is symmetrically duplicated by the left limb when both hands are simultaneously stimulated, the effect of excitation of the two hands does not lead to symmetrical posture if the excitation be not synchronous but successive. If, when the right arm has already assumed its posture in response to an excitation of the right hand, the left hand be stimulated, there results, while the left arm in obedience to the excitation is lifted and placed in the flexed posture, an immediate and, if the stimulus be at all more than slight, complete relaxation of the right arm. The right arm drops flaccid while the left is raised and maintained in the raised attitude. Similarly, excitation of the right foot breaks down the posture assumed by the right arm, and conversely, and even more easily, stimulation of the right hand breaks down a posture assumed by the right leg. Again, a nip of the right pinna causes relinquishment of a posture assumed by the right arm or by the right leg. If the right pinna is pinched when both arms are in this cataleptoid posture, complete inhibition can be readily exerted on the right arm, but usually only partial relinquishment can be induced in the left arm. To exert complete inhibition upon the posture of the left arm the pinna pinched must be that of the left side. Similarly the posture reflexly evoked by appropriate stimulation of either hind limb can be inhibited by excitation of either pinna or of either fore limb, but predominantly by pinna and fore limb of the same side as the limb to be inhibited. The inhibition of the hind limb is much more easily elicited from the opposite hind limb than from the opposite fore limb or opposite ear. I have never yet seen it obtained diagonally upon the fore limb from the opposite hind limb.

The movements obtained in the limbs by exciting the limbs

¹ Communication to the Royal Society, Dec. 29th, 1896.