preceding or occurring during certain forms of insanity; (4) various toxæmiæ, *e.g.* malarial, uræmic, cholæuric, syphilitic; (5) dyspepsia; (6) diabetes; (7) obesity; (8) insolation; (9) cerebral anæmia and hyperæmia; (10) cerebral tumours and cranial injuries; (11) exhausting diseases; (12) the sleeping sickness of Africa.

At subsequent meetings of the New York Neurological Society, additional cases of somnolence were reported as occurring in locomotor ataxia, chronic endarteritis, myxœdema, diabetes, syphilis, epilepsy, &c. Dr. Morton related an interesting case in which the patient, a physician, suffered for fifteen years from an inordinate sleepiness, which could not be overcome by mental effort, this mental lethargy lasting for many hours at a time.

T. BULKELEY HYSLOP, M.B.

Dr. Alex. Thom on a Case of Left Facial Paralysis (*Edin. Med. Journal*, July 1885).—A description is given of the case of a boy, aged 9 years, with a neurotic and strumous family history, who came under the author's care complaining of vomiting, occasional headache, staggering gait—not due to giddiness—and inability to retain the head erect, the symptoms being of three weeks' duration. He presented double optic neuritis, paralysis of the left side of the face and palate, left internal strabismus and nystagmus (apparently unilateral), paresis of the left arm and leg, with diminished knee-jerk; there was impairment of the sense of hearing on the same side, and some difficulty in swallowing; the urine contained a trace of sugar. The faradic excitability of the paralysed muscles was markedly diminished, and their galvanic excitability augmented without qualitative alteration. Sloughing of the left cornea, with loss of sensation over that side of the face, supervened; speech became impaired; paralysis extended to the right lower extremity, and finally to the muscles of respiration, causing death about ten weeks after the development of symptoms. After careful discussion the author concludes that the lesion was tubercular in nature, originated in the medulla at the seat of the nuclei of the sixth and seventh nerves, and by its extension implicated the pyramidal fibres of the opposite side, and the middle peduncles of the cerebellum. Unfortunately, the absence of a post-mortem examination deprived the case of its value. A statement, that the electrical examination showed that the lesion was not situated in the nerve-trunks, seems hardly justified by the author's description.

Westphal on a remarkable Case of Periodical Paralysis of all four Extremities, with Abolition of Electrical Excitability during the Paralysis (*Berliner Klin. Wochenschrift*, 1885, Nos. 31, 32).—A well-nourished and healthy-looking boy was admitted into Professor Frerich's Clinic on January 7th, 1885. His parents were healthy in every respect, and no member of his family had suffered from nervous disease. Four years previously he had had severe scarlatina, followed by another illness, probably Bright's disease. Four weeks after complete recovery he complained for one day of "curious sensations" in all the limbs, tingling in the hands and pains in the feet, and in the course of the following night he suddenly lost all power of movement; he perspired freely, and experienced great thirst and heat of skin. Similar attacks had recurred, at first at intervals of 4–6 weeks, subsequently with increasing frequency and severity, till the date of his admission. Previous to his transference to the Nerve-Clinic, on January 30th, he had three paralytic attacks, in which the faradic excitability of the muscles was found to be abolished; but the observation was considered to be of doubtful accuracy.

He had fresh attacks of complete paralysis of the extremities, but of only a few hours' duration, during the nights of February 4th and 10th. Dr. Oppenheim then undertook the investigation of the case, which was rendered difficult by the invariable occurrence of the attacks at night. On March 16th the patient began to complain of weakness in the right knee at 4 P.M.; at 5.30 P.M. he fell to the ground, and complained of pricking pains in both legs and feet, of great thirst, and of desire to micturate, but could only do so after an interval of some minutes. At 7 P.M. there was still a little power of voluntary movement at both hip-joints, and at the left knee and ankle; all the movements of the arms were weak. At 4 P.M., on March 17th, Dr. Oppenheim found him lying on his back, his mental faculties intact, complaining of some difficulty in rotating his head, and coughing and sneezing. Paralysis of both upper and lower extremities was complete, without rigidity or contracture; sensation everywhere unimpaired, knee-jerks present, plantar reflex abolished, but cremasteric and abdominal reflexes natural. On electrical examination, only very faint muscular contractions were obtained with the strongest faradic current over the nerve-trunks of both arms and legs, the patient experiencing great pain from the examination; the excitability of the left peroneal nerve and of the muscles supplied by it was completely abolished. At 8 A.M. voluntary power had to

some degrees returned in the muscles of the arms, which reacted comparatively well to direct and indirect faradic and galvanic stimulation; the legs were still paralysed, but the muscles of the calf reacted normally to direct galvanism, and the peronei very slightly to strong faradism. At 9 A.M. the power of flexion and extension of the fingers had returned, and some slight power of extension of the feet and toes; the head could not be flexed towards the sternum, the knee-jerk on both sides was very feeble. At 1 P.M. the patient had regained all voluntary movements, but those of the legs were still very feeble, and the faradic excitability of the extensors of the feet greatly diminished. Throughout the attack there was no impairment of sensibility, no affection of the muscles of the face or eyeballs, no loss of muscular sense, no enlargement of spleen. His evening temperature in the rectum was 39° C.; the urine contained nothing abnormal. On the following day he perspired freely, and complained of heat of skin; the faradic excitability of the extensor muscles of the left foot was still very markedly subnormal. On April 9th at 2 A.M. he had another attack, similar in all essentials to that described, but with total loss of knee-jerks and of shorter duration, both voluntary movement and faradic excitability of the muscles being re-established in seven hours. The patient had a third, milder attack, on April 16th, and was removed by his parents from hospital on April 23rd. He continued to have frequent similar attacks till the end of June, when he was lost sight of.

Westphal indicates in regard to his case the points of divergence from, as well as resemblance to, others described as "intermittent paralysis," by Romberg, Cavaré and Hartwig, and attributed by them to malarial influence. In Romberg's case¹ the attacks were quotidian in type, and yielded to quinine; ague was prevalent, but the patient had not suffered from it. Cavaré's case,² also quotidian in type, occurred in a nervous young woman three days after parturition, and was arrested by quinine; but there is no statement as to the co-existence of malarial fever. Hartwig's case¹ is narrated in detail. The patient was a robust man, aged 23, who had had tertian ague five years previously. In the autumn of 1873 he began to suffer from intermittent, total paralysis of the muscles of legs, trunk, arms, and neck, with impairment of speech, deglutition and respiration, beginning at night,

¹ 'Lehrbuch der Nervenkrankheiten,' 3 Aufl. 1857, p. 752.

² 'Gaz. des Hôpitaux,' 1853, No. 89. Same case is referred to by Erb ('Handbk. d. Krankh. des Nervensystems,' i. p. 322) as Macario's case.

unaccompanied by fever or sensory disturbance, but attended with copious sweating, and recurring every twenty-four hours. In hospital the condition became aggravated, the attacks lasting 40 hours, the intermissions only 6-8 hours; full doses of quinine apparently warded off the attacks. In March 1874 he had a fresh attack, during which the reflexes were abolished, and the excitability of the paralysed muscles almost completely so. Although quinine at first seemed to prevent the attacks, these soon returned, and, presenting usually a tertian type, persisted till his discharge about eight months afterwards. In the intervals considerable paresis of the muscles, with contracture and diminished electrical excitability, was present; on only one occasion was there a rigor and rise of temperature to 40° C. As in Westphal's case, the attacks were apparently sometimes warded off by movement, and the paralysis, which commenced in the lower extremities at the periphery, extended to the trunk, afterwards in the upper extremities, spreading from the trunk to the periphery. Recovery in both cases began at the periphery, first in the arms, afterwards in the legs.

Westphal, whose own case presented nothing of a periodic or intermittent character, doubts whether any of these cases can be justly attributed to malaria, and does not consider their improvement under quinine as conclusive evidence. At all events, the electrical conditions in his case and in Hartwig's are quite inexplicable. No known disease of spinal cord or of spinal nerves has been observed to cause similar phenomena; nor can a sudden nutritional disturbance of muscle or of nerve-endings, due to circulatory derangement, be invoked, as the state and temperature of the skin, and the perfect integrity of the sensibility, lend no support to such a view.

J. J. PRINGLE, M.D.