lesion of these peripheral regulating apparatus, he calls peripheral ataxia. He also thinks that the absence of the tendon reflexes is caused by a slighter lesion of nerve fibres, than are the loss of muscle tone, and the ataxic movements of co-ordination, due to the tonus of antagonizing muscles; and thus tries to explain the incongruity of the presence of the tendon reflexes with the disturbance of co-ordination. Westphal and Senator oppose this theory; and Kast thinks that his cases prove, that absence of tendon reflexes is not necessary for ataxia.

Kast on Reflex Saltatory Spasm. (*Neurol. Centrbl.* 1883, No. 14.)—Patient, a man 39 years old, with no neurotic family history, complained of convulsive “drawing” of both legs from the calf upwards. Onset sudden. One morning he could not stand still on his feet, as soon as they touched the ground the heels lifted up and caused him to stumble and fall. There was some increase of patellar reflex; he got better after being in bed a month, and resumed work. Subsequently, when very tired from walking, he suddenly had cramp in the calves, severe shaking of both legs, and fell down, and the shaking occurred whenever he tried to walk. After seven weeks in hospital, with warm baths and constant current, he got better, but the same symptoms came on again when he was tired. When put on to his legs, the muscles contract rhythmically and his heels are raised off the ground, the shaking extends from the calf to thighs and buttocks; he staggers and falls. Muscular power intact. No tremor on voluntary movement when lying down, no inco-ordination, no rigidity. Sensibility normal. Muscle sense and electric state normal.

Patellar tendon reflexes excessive on both sides. Ankle clonus present, but sometimes prevented by a slight tetanic rigidity of the calf-muscles. Skin reflexes increased, plantar abdominal and cremasteric, in both lower limbs increased *tendon reflexes*. He got better with a generous diet, and was able to walk in ten days; but clonus of the calf-muscles could be produced when he was made to stand on his toes; tendon and skin reflexes gradually diminished till ankle clonus disappeared. Kast states that only nine cases have been noticed. He quotes Erb in support of the theory, that this disease is probably due to increased reflex irritability and especially of the tendon reflexes, and is rather a symptom of different diseases than a distinct form of spasm. Refers to a case of Petrina's, where the patellar tendon reflex was very weak, and later on was

not obtained, and ankle clonus was absent throughout; but this case was probably an acute disseminated cerebro-spinal disease. In Kast's case the spasms could sometimes be stopped by compressing the muscles or by cutaneous electric irritation, but not by voluntary impulses.

The term of reflex saltatory spasm was first given to these cases by Bamberger. Kast thinks that the saltatory spasm can occur as part of an acute disturbance of co-ordination, and can exist when there is extensive diminution or even absence of the skin and, tendon reflexes.

C. E. BEEVOR, M D.

Associated Systematic Sclerosis of the Columns of the Cord.—In the *Archives of Neurology* (January, 1884) Drs. Ballet and Marie report a case of sclerosis of combined systems of the cord which presented clinical and pathological aspects of much interest. The patient, four years prior to admission into Salpêtrière, suffered from amblyopia, and became completely amaurotic within a year, with the accompaniment of severe headaches, compared to the pressure of an iron band around his head: there was no vomiting. Three years subsequent to this, "lightning pains" began in the limbs, and cutaneous hyperæsthesia of the extremities rendered the least touch painful. Close questioning, however, elicits the fact that such pains might have occurred previous to the development of ocular symptoms. At this period (1881) the arm became first enfeebled, and three months later there was loss of muscular power in the leg.

Upon admission in February, 1882, he was bedridden from paralysis of the limbs; he was also completely blind, not distinguishing light from darkness. The ophthalmoscope revealed grey atrophy of the papilla. He complained of transient buzzing noise in the ears, with vertigo.

Motility.—There is advanced paralysis of upper and lower limbs, cannot walk or even stand erect; executes feeble movements, but with much effort while recumbent. Arms are slightly less affected than the legs. The paralysed limbs are rigidly contracted and the seat of cramps: deep reflexes notably exaggerated: muscles wasted: no paralysis of bladder or bowel.

Sensibility.—Transient, often recurring pains of burning character affect the legs, and are accompanied by numbness of feet; all the limbs reveal painful hyperæsthesia of the skin, except left leg, which is partially anæsthetic. Later on in the year, lancinat-