

of the legs on standing or walking ; sometimes one notices, however, as the first phenomenon, some lightning pains in the legs or in the loins. After a variable time which is ordinarily from one to three years, the uncertainty of movement attacks the hands also (uncertainty of movements of the upper extremities has been observed in the beginning by Sanger Brown, but it is quite exceptional). Almost at the same time arise troubles of speech, and of the sight. Another phenomenon to notice is that which consists in the preservation and also in the exaggeration of the patellar reflexes ; sometimes there also exists other spasmodic phenomena. In some cases only disturbance of the cutaneous sensibility has been observed. Sometimes one notices a certain mental weakness. In regard to the troubles of deglutition or of the genito-urinary sphincters, if they are seen in certain cases they are exceptional. The disease is essentially progressive but may present remissions ; it does not cause death. This supervenes through some intercurrent disease, even in advanced age ; this terminal intercurrent disease attacks the lungs especially.

Such are, as a whole, the aspect and course of this affection ; it now remains for us to separately consider each symptom which I have just enumerated and to study the principal variations in them.

In regard to the troubles of motion of the lower extremities, it is not necessary to enlarge upon them, for they are entirely analogous to those observed in typical Friedreich's disease. We find the same uncertain gait arising from a lack of knowledge of equilibrium rather than from muscular inco-ordination. The legs are separated, the step irregular, the feet fall heavily on the floor without contradictory and useless excursion of movement which gives to the walk of ataxics its special characteristic. The body is thrown backward, the loins are arched, and the patient "walks from the pelvis." In the beginning they are able to move without great difficulty, but little by little the difficulties increase and they are obliged to claim the assistance of a cane. A little later this suffices no longer, it is necessary to support them under the arms, or, when by themselves, they are obliged, in order to make a few steps, to lean against the wall or on the furniture in the room in which they happen to be. The

erect posture is in certain cases very difficult ; one then sees the patient leaning against the wall, the body inclined forward, balancing itself lightly from one side to the other, the head carried backward, oscillating as if being too heavy for the neck, the patient had some difficulty in maintaining it in equilibrium. It is in order to counter-balance the inclination of the trunk forwards that the head is carried backwards in this manner.

We must remark that in this description it is a question only of the cases in which the symptoms are very marked ; in the beginning it is not the same. These troubles in the motion of the lower extremity are seen but little except after great fatigue, or after a long walk. Sometimes in the early stage the uncertainty of walk does not attract the attention of the patient himself whilst it is remarked by those about him, and the cases are not very rare in which this initial titubation has been taken for inebriety. If one seeks in these cases what is the influence on equilibrium, of closure of the eyes one notices that in general it is but little changed. In a word there is not or scarcely any Romberg's sign contrary to what is seen in tabes. This absence of Romberg's sign is besides, usual in Friedreich's disease. In some cases patients complain of giddy sensations which contribute to exaggerate the difficulty of the walk and of the erect posture. As to the upper extremities their motion is infinitely less disturbed than that of the lower extremities, and only at a late stage. In this the former motor trouble consists especially, as in typical Friedreich's disease, in somewhat of a pseudo-tremor, occurring especially on intentional movements. At first only the most delicate acts are altered, such as, for example, that of writing, or picking up a pen, or buttoning a coat ; when the disease is further advanced, other movements may be much disordered and the patients are able to feed themselves or carry a full glass of water to their mouth only with difficulty. This motor trouble exists rarely except in the accomplishment of volutar movements, and ceases when the end is attained. It is thus, that the disordered movements which are seen while the patient attempts to pick up a pencil, cease as soon as he has succeeded in doing so. He then holds the pencil in his hand firmly and without trembling. Closing the eyes exerts here also a very feeble influence. During these different acts the head and body and