in which the symptoms bore a strong resemblance to those observed in Friedreich's cases of hereditary ataxia, and where after death there was found systematic degeneration of the pyramidal strands, the cerebellar tracts, and Goll's columns. These three cases, Strümpell thinks, leave no doubt as to the existence of primary combined systematic diseases. The morbid process in these diseases is not a chronic inflammation originating in the connective tissue or blood-vessels, but is a true parenchymatous degeneration of the nerve fibres, the increase of connective tissue being secondary.

The paper closes with a case of tabes dorsalis, in which there was paralysis of the legs and ataxia and paresis of the upper extremities. The autopsy showed complete degeneration of the posterior columns with the exception of a small area adjoining the posterior commissure, and also systematic degeneration of the cerebellar tracts in their whole extent and of the lateral pyramidal strands in the lumbar and lower dorsal regions. A narrow belt of marginal degeneration surrounded the cord. The affection of the lateral columns in this case was too systematic to be accounted for on the usual theory of the direct extension of the disease from the posterior columns. The only feasible explanation is that tabes dorsalis belongs to the group of primary combined systematic diseases.

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Syphilis and Tabes Dorsalis.—Westphal (*Archiv f. Psych.* xi. p. 230) concludes that an ætiological relation between syphilis and tabes is unsupported either by clinical or pathologico-anatomical facts. In 75 cases, whose histories were comparatively well ascertained, he found chancres in 14, chancres and secondary symptoms in 11. Nineteen out of 20 cases occurring in women had no history of chancre, and the twentieth case was a doubtful one. In one case only were secondary symptoms present whilst the patient was under observation. Of 16 cases that came to autopsy one only showed evidences of syphilis, and in another the appearances were doubtful. Further, Westphal has never seen a case of grey degeneration of the posterior columns cured by anti-syphilitic remedies. Remak (see *Centralblatt f. med. Wissensch.* 1880, No. 43) obtained a history of syphilis in 25 per cent. of his cases of tabes, nevertheless he does not admit a direct causal connection between the two. Bernhardt admits that syphilis may

produce tabes, but it is not nearly so potent a cause as is often supposed.

Westphal reports a case in which, besides other lesions of a syphilitic nature, there was disease of the posterior columns in the upper cervical region. The medulla of the nerves had disappeared, but the axis-cylinders were intact, and in some places seemed larger than normal. The vessels were dilated and their walls thickened. There was no increase of connective tissue or proliferation of nuclei, no corpora amylacea, no cells with fatty granules. The changes were evidently due to a peculiar parenchymatous affection. A gumma was found in the posterior part of the corpus callosum. Westphal compares this case with one recorded by Schultze, in which there was a tumour of the anterior part of the corpus callosum and degeneration of Burdach's columns down to the lower dorsal region. In Burdach's columns the nerves had lost their axis-cylinders, but for the most part retained their medulla. The neuroglia was normal.

Pick on Agenesis of the Spinal Cord. (*Prager med. Wochenschr.* 1880, Nos. 15 and 16, and *Centralblatt für med. Wissensch.* 1880. No. 46.)—The results of a *post-mortem* on a child aged 14 months are reported. There was hæmorrhagic pachymeningitis, asymmetry of the cerebrum and cerebellum (the former was smaller on the right side, the latter on the left), diminution of the crus, pons, and pyramid on the right side, and discoloration of the lateral pyramidal tracts as far down as the lower dorsal regions. The discoloured tract was smaller on the right side than on the left, but this was compensated for by a small tract of discoloration in the mesial part of the left anterior column, extending to the level of the fifth cervical nerve. The discoloration was due, not to hypertrophy of the interstitial connective tissue, but to the absence in most of the fibres of the medullary sheath. The strands had been arrested at a stage in their development prior to the appearance of the medullary substance. The author remarks that if the disease (encephalitis) which causes hemiatrophia cerebralis occurs in childhood or even youth when the cord is still developing, it is quite possible that an arrest of development may ensue in the corresponding pyramidal tracts.

Under the name of atelectasis medullæ spinalis, Schiff (*Pflügers Arch.* xxi. 328, and *Centralblatt f. med. Wissensch.*, No. 39), draws attention to a similar affection in the spinal cord of dogs. He describes several varieties; atelectasis totalis, segmentalis (medulla

of nerves wanting in particular strands), marginalis (medulla wanting in fibres that form border of cord), guttata and circinata (patches and rings in which fibres have no medulla). The axis-cylinders were quite intact, and the functions of the nerves apparently unimpaired. Schiff thinks that some of the cases of sclerosis and grey degeneration of the columns in man are really instances of a congenital affection of this kind; and in point of fact, he has found in general cases of the hereditary ataxia of Friedreich, not grey degeneration of the posterior columns, but simply an atelectasis. The retention of the sensibility in such cases is accounted for by the intactness of the axis-cylinders; the ataxia is a purely cerebral symptom.

Moeli on Amyotrophic Lateral Sclerosis.—The author reports a case of this disease (*Archiv f. Psych.* Bd. x. p. 718), which presents several interesting features. (1.) The patient died of pneumonia 3½ years after the appearance of the first symptoms, during which time no bulbar symptoms showed themselves. Cases have been known in which 6 and even 14 years intervened between the spinal and the bulbar symptoms. (2.) In the lower cervical and upper dorsal regions there was sclerosis of the mesial parts of Burdach's columns, such as is found in commencing tabes. There was no history of severe pains. (3.) There was no degeneration of the anterior columns: from which it follows that this was a case of total decussation of the pyramids. Total decussation appears unusually common in these cases. (4.) There was diminution of the irritability of the muscles, but the reaction of degeneration was never obtained. (5.) There were no muscular contractures. From this we may conclude that the cornua became diseased before the pyramidal tracts.

Shaw on Subacute Myelitis of the Anterior Cornua. (*Journ. Nerv. and Ment. Disease*, Chicago, April 1880.)—A woman, aged 50, as a result of a chill, became feverish, had pains in her chest, back, and feet, and lost the use of all her limbs. A month before death her condition was as follows: Complete paralysis of the upper extremities and atrophy of the muscles of the arms and forearms, able to move her feet a little, tactile sensibility of lower extremities slightly impaired; loss of faradic reaction in the muscles; occasional involuntary passage of urine and fæces. Bulbar symptoms appeared three days before death (about three months from commencement of illness), but patient was then semi-conscious. *Post-mortem:* there was a slight meningitis in the dorsal and

lumbar regions. Throughout the cord there was degeneration of the cells of the anterior cornua, especially of the external lateral group; many of the cells were swollen and cloudy, and had apparently lost their nuclei and processes. The grey matter in the neighbourhood of the cells showed, here and there, the granular disintegration of Lockhart Clarke. In the cervical enlargement, and in it only, there was sclerosis of the columns of Goll and of the lateral columns; in the upper half of the dorsal cord there was slight degeneration of the posterior root-zones (*rubans externes* of Charcot). The author thinks the ascending degeneration of Goll was secondary to the degeneration of the root-zones.

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Erlenmeyer on Nerve-Stretching in Locomotor Ataxia. (*Centralblatt für Nervenheilkunde*, No. 21, 1880.)—Langenbuch and Esmarch have described two cases of tabes treated by nerve-stretching. The idea was to relieve the patients of their acute pains; and not only did the result justify the keenest hopes entertained on that score, but, to the astonishment of all concerned, the ataxy itself was greatly reduced by the operation. Erlenmeyer discusses these cases and their various bearings, and contributes another instance of nerve-stretching in an advanced case of tabes. The patient had passed through the period of shooting-pains, and had entered upon the third, or paralytical, stage of the disease. The ataxia was excessive, the muscular sense absolutely lost, the bladder paralysed. The most energetic treatment, including anti-syphilitic courses, had failed to effect any improvement. On June 22, 1880, the right sciatic nerve was exposed by means of an incision over the sciatic notches (Erlenmeyer considers it advisable to operate as near the centres as possible). Lister's method was followed, and the wound healed by first intention. On July 3, the left sciatic was stretched. At this time the right leg had distinctly gained in strength, but the ataxy was not notably diminished. The healing of the wound on the left side gave some trouble, on account of some erysipelatous complications. On the 16th of August, the patient could stand alone against a wall, which was previously impossible, and may be considered as a proof of a gain of strength. The ataxy remains much the same; but the remnants of the shooting-pains, which atmospheric vicissitudes always aroused, have disappeared.

The comparative failure in his case is attributed by Dr. Erlenmeyer to the insufficient force exerted in stretching the nerves.