Soederbergh, Gotthard. NORMAL ABDOMINAL REFLEXES AND THEIR MEDULLARY LOCALIZATIONS. [Neurol. Centralbl., April 1, 1918, No. 7, Vol. 37.]

How do the abdominal reflexes behave under normal conditions, when, as far as possible the same technic is used in examinations, and what is the localization of their medullary roots? The author gives an extensive bibliography of previous treatises which, however, he finds unsatisfactory. Too little attention has been given to the finer details connected with the abdominal reflexes; the technic employed is not uniform; the medullary localizations are not definitely determined and their significance explained. He seeks to solve these problems, by setting out with the assumption that if the sensory and motor roots for each reflex are determined, the medullary localization would be given. It is not difficult to surmise where the sensory roots are, as the segments of sensibility in these regions are pretty well known. Further, the author had for years collected observations on the functions of the anterior roots, both from clinical and experimental studies, and in the literature some facts are given which throw light on the motor segmentation. By a minute observation of the abdominal reflexes, especially of the manner in which the various abdominal muscles contract, and by then comparing these results with what was known of the functions of the anterior roots, the motor element of the reflex arcs could be calculated and the circles closed. The author divided the abdomen into four sections corresponding to the epigastric region (epigastric reflex), the hypochondriac region (upper lateral reflex), the region at the level of the umbilical (the middle reflex) and the inguinal region (the lower lateral reflex). Experiments were undertaken on about seven hundred individuals. A summary of the results is as follows: the epigastric reflex manifested itself by a contraction of the superior part of the *angulus epigastricus*; the upper reflex died out above the infracostal line; the middle reflex was, as a rule, simple and, in most of the cases, typical—a light ligament-like contraction in the horizontal umbilical line, limited strictly to the *mesogastrium*. The lower reflex showed greater variation than the others; 90 per cent. of the contractions did not go beyond the horizontal umbilical line, in 28 per cent. there was a clearly perceptible contraction of the *obliquus internus*, and, in a few cases, of the *hypogastrium*. The author concludes that the arc of the upper abdominal reflex passes through the sections from D. 6 or 7 to D. 9, and, further, that this reflex may be absent in the upper abdominal syndrome. The localization of the arc of the middle reflex he finds to be from D. 8 to D. 10, and this may be absent in the middle abdominal syndrome. The lower reflex is localized at D. 10 to 12. The fact that the lower reflex may be absent in the lower abdominal syndrome has been confirmed by various writers. Concerning the epigastric reflex, he can express no opinion, besides, it is doubtful

whether it has any diagnostic worth. These localizations are only approximate, but precise ones cannot be expected without doing violence to nature. The nervous system is not arranged like a desk in which it is possible to find each separate function in a definite place. The reflex muscle contractions, further, do not correspond exactly with those produced by electric stimulation, for the reflex muscle segment is innervated by combinations of some of the fibers of various roots, while the electric stimulus affects only a single root and probably all the fibers of that root. The author calls attention to one other point of interest which he established through experiments with electric stimulation, namely, that the cutaneous reflexes are located several segments further caudalward than the muscle reflexes, conforming with Sherrington's observations.

4. MIDBRAIN; CEREBELLUM.

Widal, F. LETHARGIC ENCEPHALITIS. [Bull. de l'Acad. de Méd., Paris, Jan. 27, 1920, 83, No. 4.]

A peculiar physiognomy is shown in the malady because it seems to affect isolated small patches of the nervous system, passing over the intervening areas. In one case, typical ankle-clonus and the toe phenomenon were the only signs beyond fever, somnolency and ptosis, with none of the other disturbances usually accompanying ankle-clonus.

Halbron, P. ENCEPHALITIS LETHARGICA. [La Médecine, December, 1919, No. 3.]

In a short popular article the writer goes over the outstanding features of the affection to which A. Netter called attention in France in the spring of 1918. He mentions the usual indications characterized by association with an infectious state, more or less complete somnolence and disturbances of the eye musculature. Examination of the cephalo-rachidic liquid gave only a weak albuminous and cellular reaction; it made possible the diagnosis of encephalitis and of tuberculous meningitis, with which the early cases had been confused. The writer discusses the etiology of the disease, its relation to grippe and concludes with Netter that the disease is a specific ailment. [Author's abstract.]

Morse, P. F., and Crump, E. S. BACTERIOLOGY OF LETHARGIC ENCEPHALITIS. [Jl. Lab. and Cl. Med., Feb., 1920.]

From fluid aspirated from the lateral ventricles of the brain in six cases the authors obtained uniformly pure cultures of a nonmotile coccus, small in young cultures, as large as a staphylococcus in old cultures, with a tendency to grow in diplococcus and tetrad forms and to bunch in small clusters. It divides similarly to a staphylococcus in three planes, stains readily with the aniline dyes, and is gram-positive. Pathologic findings seem to show "encephalitis lethargica" as not a