that part of the posterior root fibres pass directly into the opposite half of the cord. The anterior roots showed also degenerative changes in the sacral and lumbar portions of the cord.

The findings of this case confirm for man the anatomical relations of the posterior roots which Singer and Münzer had found to exist in dogs on the ground of experimental investigation. The direct connection of posterior root bundles of the lowest portion of the cord with the nucleus of Goll's column is present also in man. Goll's column is consequently formed by long fibres which are the direct continuation of root fibres of the posterior roots contained within the cauda equina.

The fact that a great part of the fibres belonging in the cauda equina end within Clarke's columns, makes it probable that the nuclei of Goll's columns are homologa of Clarke's columns.

ONUF.

Left Facial, Glossal, Pharyngeal and Laryngeal (?) Paralysis due to a Softening Focus of the Right Centrum Semiovale.

By D. A. Wallenberg (*Neurol. Centralblatt*, 1896, No. 5). In a man of 47 years, who for several years has been suffering from insufficiency of the aortic valves without distinct signs of aneurysm, and without paralysis of the recurrent branch of the pneumogastric nerve, the following symptoms developed about a year ago or still earlier: Myosis on both eyes with loss of response, paralysis of the right sixth nerve. Then gradually increasing dementia, headaches, attacks of dyspnoea, vomiting, a pulmonary affection of a few days' duration (embolism ?)

After the condition had remained stationary during several months, the following symptoms developed within three days: total paralysis of deglutition, paresis of the left facial nerve in all its branches, of the left vocal cord and in slight degree also of the muscles elevating the left shoulder.

Aside from this there was oedema of the left conjunctiva, of the right upper lid, formation of two tumors on the left half of the skull. No reaction of degeneration in the paralyzed muscles, but lessened excitability to both kinds of currents. Trunk and extremities show no disturbances of sensation and motion. The tumors disappeared after mercury treatment, the palsies receded considerably. About three weeks after the development of the complex of symptoms described, the patient was taken with vomiting, dyspnoea and collapse, resulting in death.

W. had made the diagnosis of a bulbar affection, but the autopsy proved that the symptoms developing three weeks before death were due to a focus in the right centrum semiovale. The following tracts of fibres had suffered complete interruption of continuity by the focus: Nearly all projection fibres of the third frontal convolution, of the ventral half of the second

frontal convolution, of the "Uebergangswindung," some few elements from the ventral portions of the central convolutions, much more from the orbital gyri, chiefly the lateral; also the sagittal association tracts of the frontal lobe, fibres of the corpus collosum and elements of the external capsule.

The caudate and lenticular nuclei and the internal capsule lie ventrad of the focus and are entirely untouched by it.

The majority of German neurologists seem to accept the view of Simon and Huxley, that each hemisphere presides in equal degree over the movements of both vocal cords. Masini and Brissaud claim that each hemisphere presides predominantly over the contra-lateral vocal cord and only to small extent over that of the same side. W. concludes that the findings of his case serve to corroborate the latter view.

It may be considered as proven that the part of the operculum which is situated behind the anterior ascending branch of the sylvian fissure together with the adjoining portions of the anterior (less of the posterior) central convolution, and of the third frontal convolution represent motor centres for all muscles of the left half of the face and tongue, and for the acts of mastication and deglutition. The larynx centre is located by Brissaud in that part of the operculum which occupies the space between the anterior ascending and anterior horizontal branch of the sylvian fissure.

In W.'s case the medullary fibres of the above divisions of the cortex were destroyed for the most part. The findings are thus in harmony with the above-named views.

The pictures accompanying the paper illustrate clearly the conditions. ONUF.

Tendon Reflex in Typhoid Fever. In his thesis for the Doctor's Degree, at Nancy, M. Renard stated that he had examined the tendon reflex in fifty cases of typhoid fever; that in seventy per cent. it was exaggerated, and in thirty per cent. either abolished or normal, and he found also that it was subject to daily fluctuations which appeared to have no relation to the severity of the enteric disease. He concludes from two post-mortem examinations in which fragmentation of the myelin in some of the nerve tubules in the dorso-lumbar region was present, was due to a localized irritation in the spinal cord. The conjecture is apparently founded upon an insufficient pathological observation, however. MITCHELL.

The Pathology and Treatment of the Occupation-Neuroses. (*Wiener Med. Wochenschr*, 1895). The author made a study of writers-cramp, especially, and found in the vast majority of cases, hard and soft, roundish swellings along the extensor tendons of the fingers, especially