organs, it were disposed in series with these elements, no distinction could be drawn between the tension of a passive stretch and that of active contraction. Histologically the most important group of end-organs existing in parallel with the striated muscle fibres are the muscle spindles.

In view of all the evidence, it is concluded that the muscle spindles are the receptors for the knee-jerks and the stretch reflex.

The tendon organs are evidently the tension recorders, and it is also possible they give rise to impulses leading to reflex inhibition of the muscle itself. Whether or not they mediate pain is left an open question.

J. V.

NEUROPATHOLOGY.


This is a record of a valuable piece of work of considerable interest to the neurologist.

Experimental illuminating gas poisoning in rabbits is followed by diffuse nerve-cell changes throughout the cortex, brainstem, cerebellum and spinal cord. In the early stages the lesions are mainly degenerative in type: the nerve-cells show acute swelling, liquefaction, and lesions of both ischaemic and shrinkage type. Neuroglia reaction accompanies these changes, and microglia and oligodendroglia undergo a process of acute swelling. At a later period the process is one of combined degeneration and inflammation. Areas of softening occur, and microglia reaction leading to the formation of 'gitter-cells' is plainly visible.

In acute stages the endothelium of the blood vessels is swollen, while in chronic stages a true endarteritic process may be found. The degenerative lesions have no predilection for the corpus striatum as is frequently the case in human pathology, but are evenly distributed in various cortical and central areas. The olfactory system is early affected and among other structures the ganglion habenulae and corpus mamillare are particularly damaged. Infundibular and hypothalamic structures are seriously involved, also the peripheral nervous system (lesions of anterior horn cells and of both anterior and posterior roots). The pathogenesis of the lesions is complex.

J. V.


The incidence of brain tumours among psychotic patients is no greater than among those in general hospitals. Of 75 tumours collected, 48 per cent. were gliomas and 30·6 per cent. meningiomas. Of the gliomas 66 per cent. belonged to the group of spongioblastoma multiforme and 16 per cent. were astro-
cytomas. The tumour belonging to the former group is extremely rapidly growing and gives rise to acute mental changes. The average duration of life from the onset of symptoms was found to be only 9-1 months, whereas in the more benign astrocytomas it was three and a half years. Histological study reveals no pure type of glioma. The term spongioblastoma multiforme fails to cover all the elements contributing to its structure, and the name "glioblastoma multiforme" seems more appropriate. The occurrence of combined forms of glioma in the same tumour was as high as 14 per cent. Besides the combined forms, many tumours show transitions between related types of cells as, for example, between astrocytoma protoplasmic and astrocytoma fibrille, ependymoblastoma and ependymoma, neuroepithelioma and ependymoblastoma, etc. One tumour was presumably formed almost entirely by oligodendroglia.

C. S. R.

SENSORIMOTOR NEUROLOGY.


In the experience of most observers epilepsy must be an excessively rare accompaniment of epidemic encephalitis. Professor Wimmer, however, has been able to collect no fewer than 32 of such cases. In 12 instances there were other neurological signs present, but in ten the epilepsy constituted the sole symptom. It must be stated that the accounts of the cases are not convincing as regards the diagnosis of encephalitis, and in only two or three were signs of Parkinsonism present; in the majority, other signs coexisted, such as areas of altered sensation, pyramidal types of hemiplegia, disc changes which are themselves outside the usual encephalitic picture. In one so-called monosymptomatic case in which a bloodstained spinal fluid was withdrawn, the diagnosis of spontaneous subarachnoid hæmorrhage seems much the more obvious solution of the symptoms. Some diagnosis other than encephalitis which would harmonize better with the rest of the symptoms can indeed be suggested in almost every instance. Although the manifestations of epidemic encephalitis are admittedly protean, we feel that to broaden our clinical conception too far is to threaten the stability of encephalitis as a nosological entity.

M. C.


Brief outlines of the histories of 34 cases are given.

The point which the author makes is that a very slight recurrent attack beginning in childhood may be the precursor of major epilepsy in later life. Some of the early attacks he describes are uncommon and interesting, e.g., laughter and crying, excessive flow of saliva, belching, feelings of loneliness, everything "looking blue."