rounded or elliptical form. These tumefactions always appear to begin at or near the free extremity of the dendron. As an essential accompaniment of these tumefactions, is the loss of the gemmulæ. The author found comparatively unimportant changes in the arteries. He is inclined to attribute the lesions found to the direct action of the poison upon the protoplasm. He also believes that the maniform swellings of the dendrites and the loss of the lateral buds are the first step in a pathological process which eventually ends in partial or complete degeneration of the cell structure, and with it the annihilation of the nervous forces produced by the cell.

Only very few of the cells show changes in the corpus. Some of them are described as corrugated from the very roughened appearance of their exterior. The axis cylinders of all the cells of the cortex demonstrated no morbid alteration. With regard to the cerebellum, the cells of Purkinje presented the same alteration as the pyramidal cells, but were striking in their relative intensity. Neither in the cerebrum or cerebellum was there any pronounced change in the supporting elements.

The author concludes his paper by comparing the pathological lesions found with the symptoms found in chronic alcoholism. The muscular disorders he attributes to the irritation of the nerve cells. The anæsthetic and parasthetic symptoms, the ocular and amnesic disturbances to the beginning swelling of the dendrites of the sensori-motor region.

The tremor and incoordination to the involvement of the motor cells and their nuclei. The incomplete dementia comes on as the cell structure becomes more and more degenerate.

All these changes which have been found above, the author claims are also present, varying in degree, in the human brain. That these lesions are or may be capable of being produced by any irritant drug the author does not deny.

The paper is accompanied by excellent illustrations.

A. WIENER.

CLINICAL.

Cases of Sudden Death After Lumbar Puncture.

By P. Füllbringer (*Centralblatt für Innere Medizin*, Jan. 4, 1896).—In a paper read before the "Berliner Medicinische Gesellschaft," March 20, 1895, concerning the clinical significance of "Spinal Puncture" in eighty-six cases, the author made mention of the fatal consequences in four of them.

As the literature upon this subject is still somewhat meagre, and the cause of death not a positive one, the author feels that each and every case of this kind should be recorded. Another such a fatal result has again occurred in the author's experience.

A young man suffering from a cerebellar neoplasm died on the same day that lumbar puncture was made. In addition to the history and record of the puncture in this patient, the author makes mention of a similar case reported by Lichtheim. A woman, aged 35 years, suffering from cerebellar tumor, death resulted on the day following the one on which the puncture was made. Lichtheim bids us to be cautious, and believes that after lumbar puncture a positive pressure still remains within the ventricles.

The author, taking into consideration, that in three cases under his own observation, and the one above recorded by Lichtheim, in which death resulted within a space of forty hours; that previous to the puncture an increased severity of the headache existed, and after the puncture a distinct feeling of relief followed, until a renewed increase in the severity of the headache began, and there was a sudden "exitus" of the patient; taking these four cases into consideration, their course and manner of behavior after the puncture, the author has, become very suspicious, and believes that all powerful reasons speak for the probability of a close association between this lumbar puncture and the death of the patient.

With regard to the theories as to the cause of death after lumbar puncture the author is not inclined to give much credence to Quincke's view of aspiration. He considers as very plausible the theory of Stadleman, viz., a pathological narrowing or closure of the foramen of majendie will not allow a rapid emptying of the fluid within the ventricles. As a result of this, the brain, after the fluid has been removed from the subarachnoid spaces of the spinal cord, is drawn and pressed up against the dura at the base and trophic disturbances result.

F—— does not believe, however, that this is sufficient to account for the fatal consequences, but is inclined rather to attribute them to the pressure exerted upon the vital centers in the neighborhood of the medulla. He warns us, therefore, from employing lumbar puncture in cases of brain tumor, and especially cerebellar tumors.

Probably, where the puncture is made repeatedly and only small quantities of cerebro-spinal fluid are removed each time, the danger of this operation may be less. No lasting benefit is to be hoped for.

A. WIENER.