

(3) *Cell-deposits in the finer membranes.*—These consist, not of plasma-cells and lymphocytes, but of macrophages, developed from the lining cells of the meningeal lymph-spaces. Thus the deposits in the meninges are not analogous to those on the cortical vessels. The condition somewhat resembles the so-called “chronic meningitis” occurring in general paralysis and sleeping-sickness. (It may be noted that in some of these cases of spotted fever macrophages are found on vessels in the brain substance—not in the cortex, but in the basal ganglia and central white matter; here, as in the pia, they are derived from the resident mesoblastic cells of the locality.)

Slight diffuse degenerative changes are seen in the nervous parenchyma. The appearances of the nerve-cells resemble those in other severe infective or toxic general diseases, and are not more severe or wide-spread than might be expected from the severity of the illness as a whole. The nerve-cells are not to any appreciable extent beset with amoeboid glia cells.

The interest of Spielmeyer's observations lies not so much in their importance for the study of spotted fever as in the light they throw on the general pathology of the central nervous system, and particularly on the pathological anatomy of the brain cortex. In this disease many things are clear that cannot well be made out in such a condition as, for example, general paralysis. First, as to the genesis of the plasma-cells and the macrophages. Sometimes, even in spotted fever, as so often in other conditions, it is difficult to distinguish these two kinds of cells from one another; when agglomerated in a cramped space they come to look alike, because, of whichever kind they are, they are pressed together into the same polyhedral forms or are flattened like the cells of stratified epithelium; in the miniature lesions of this disease their totally distinct origins can be easily proved. Then, as regards the *Stäbchenzellen*. Nissl and Alzheimer originally regarded these as mesoblastic. Later (1912) Alzheimer announced that in general paralysis some of them at any rate were glial; and Achúcarro has demonstrated in cases of rabies the formation of glia-fibres on these cells; but in no condition can their glial nature be so clearly proved as in spotted fever. Further, as to the purely glial foci. It is here seen that a glia-cell proliferation can occur apart from any vascular lesion or cell exudation; *i.e.*, it need not have an inflammatory basis. Nor need it be a reaction to a decay of the nervous elements, for in spotted fever, in spite of the pronounced glia-cell proliferations, the nervous structures proper remain remarkably long preserved. Thus it is shown that a glia-cell proliferation can occur primarily and independently.

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*The Structural Brain Lesions of Dementia Præcox.* (*Amer. Journ. of Ins.*, October, 1920.) Gurd, Adeline E.

The writer analyses the histological findings in the brain of nineteen cases of dementia præcox. The duration of the psychosis, age of patient and cause of death are given in each case. The cases are divided roughly into three groups: (1) those dying in the acute stage of the disease, (2) those in whom the disease had lasted two to four

years, (3) the more advanced and degenerate types with a psychosis of ten to thirty-five years' standing. In the first group, the acute catatonic type, which has lasted but a few months, the marked changes are paleness of field, loss of chromatin in nerve-cells, granular degeneration of body and dendrites, very marked alterations in the nucleus with folding and irregularity of nuclear membrane, metachromatic alteration of nucleoli, severe fatty degeneration of glia and nerve-cells with many regressive and few progressive glial changes. In the second group, in addition to these alterations are noted the presence, especially in the medium-sized pyramidal cells, of a good many cells which are shrunken and sclerosed and many more undergoing severe Nissl's degeneration. In the more chronic cases of group (3) the same changes are found, besides which there was much more increase in glia elements, all regressive in nature, with severe sclerosis of the majority of the smaller pyramidal cells, and marked acidophil degeneration of the nuclei, and many fragmented and vacuolated cells. The myelin sheaths and axis cylinders also show some change, particularly the latter, which tend to split and become slender a short distance from the cell.

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*Histopathology and Spirochæte Findings* [*Histopathologie und Spirochätenbefunde*]. (*Arb. für Psychiat., München, Bd. i, December, 1919.*) Nissl, F.

It was announced by the author in 1904, and has been confirmed by Alzheimer (who has made the subject peculiarly his own) and by other observers since, that in the paralytic brain affection there are two distinct processes going on simultaneously—the one inflammatory, the other non-inflammatory (“degenerative”). The latter is independent of the former; it occurs over and above any degeneration that is secondary to an inflammatory damage. That it is independent is established by histopathological findings, and is not deduced from any doctrine of metasyphilis.

Not because of any new histopathological observations, but simply because spirochætes have been discovered, Raecke has jumped to the conclusion that Nissl and Alzheimer's account of what happens is wrong and is now superseded. He has been saying “it is now established that a local inflammatory process underlies the whole of the changes.” He talks of the diversity of the changes in the nerve-cells, and why we do not find merely the ordinary forms of acute and chronic cell change, and more particularly why the cell appearances characteristic of toxic conditions do not stand in the forefront, and he says that “on all these previously puzzling things the discovery of the spirochætes has shed a clearer light,” showing us the operation of a quite novel factor—penetration of the spirochæte into the body of the cell and even into the nucleus. He says that the cell is eaten away, is irreparably damaged and speedily perishes, and that compared with such swift destruction, appearances resembling those observed in other disorders fall quite into the background.

This, says Nissl, is a pure culture of errors. In the opinion of Jähnel, now the leading authority on spirochætes in paralytic brains, invasion of nerve-cells by spirochætes is an altogether exceptional