

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discovered, Raecke has jumped to the conclusion that Nissl and Alzheimer's account of what happens is wrong and is now superseded.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

occurrence. It is not true that the discovery of the spirochætes has shed a clearer light on the cell changes. Their diversity is no more intelligible now than before the spirochætes were found. A similar diversity can be demonstrated in non-paralytic brains. The discovery of the spirochætes does not alter Alzheimer's histopathological findings or "justify another conception of the relations between inflammation and degeneration in the paralytic process." Jahnel, whose authority Raecke so often cites, regards Alzheimer's conception as quite harmonious with his spirochæte findings. But suppose it is wrong; suppose it to be founded on inaccurate observations; only by histopathological investigation could this be proved. Or suppose it is to be shown experimentally that, in the central nervous organs of animals, spirochætes from paralytic brains produce changes exclusively inflammatory; here again it is only by the anatomist that the last decisive word can be spoken. Nissl does not himself see why spirochætes may not produce non-inflammatory changes as well as inflammatory. The mechanism of the action of the spirochætes on the brain tissue in paralysis is still entirely unknown. As regards the inflammatory changes, though we know that parasites are apt to cause inflammation, the occurrence of massive inflammatory infiltrations is no evidence that the inflammatory changes have necessarily always a parasitic origin. The anatomical characters that distinguish the paralytic affection from ordinary syphilitic inflammation remain, even if the metasymphilitic hypothesis is rejected.

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*The Sachs-Georgi Precipitation Test in Syphilis, with Special Reference to its Employment on the Spinal Fluid* [Die Sachs-Georgische Ausflockungsreaktion bei Syphilis, mit besonderer Berücksichtigung ihrer Anwendung am Liquor]. (Arb. für Psychiat., München, Bd. i, December, 1919.) Plaut, F.

This test, though not without difficulties of its own, is far simpler than the Wassermann, and, giving mostly concordant results, may prove a useful substitute for it. One c.c. of the patient's blood-serum, inactivated by heating at 56° C. for half an hour, is diluted with 0.85 per cent. saline to 10 c.c., and is then mixed with 0.5 c.c. of cholesterinised alcoholic heart-extract diluted with saline to 3 c.c.; after two hours in the incubator and ten to twelve hours at room temperature the result is read in the agglutinoscope. In spinal-fluid tests series of increasing doses are used. The paper contains a long discussion of technique and precautions.

Prof. Plaut has made parallel tests (Wassermann and Sachs-Georgi) of 500 sera. Some interesting discrepancies were observed. Of the 500 sera, 222 were from cases of known or suspected syphilis. In 116 of these both tests were positive; in 67, including 31 known to have been syphilitic, both were negative. Cases in which one or other reaction was doubtful being excluded, there remained 16 with a flat disagreement—10 with only the Wassermann positive, 6 with only the Sachs-Georgi. The 10 that gave Wassermann only were all of them cases of long-standing syphilis, and included 3 juvenile paralytics and 3 other congenital syphilitics; on the other hand, among the 6 giving Sachs-Georgi only, there were 3 cases of secondary syphilis and 1 of