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far as it pertains to the nerve cells of adults, the name of Nissl granules will suffice. It will be shown later that this name, in some cases at least, implies an incorrect inference as to the mode of occurrence of the chromophilous substance in the cell.

The chemical properties of the Nissl granules have been studied by Held,³ Eve,⁴ Mackenzie,⁵ Bühler⁶ and others. Held found the granules were soluble in dilute alkalies, did not digest in pepsin and hydrochloric acid, were not acted on by acids and gave no reaction with Millon's reagent, Adamkiewicz's or the xanthoproteic tests. Held, however. obtained a positive reaction for phosphorus by the employment of Lilienfeld and Monti's test for that element. He concluded from these reactions that the Nissl granules were of a nucleo-albuminous nature. Eve, however, was doubtful whether the granules were really dissolved in the alkali or were merely altered in their staining powers; and found that after treatment with acids or salt solutions, the granules stain more diffusely. Bühler found the granules were soluble in salt solutions as well as in alkalies. It has recently been observed that nuclear chromatin gives with the Millon reagent a definite reaction, and Macallum⁷ has shown that the reaction of Lilienfeld and Monti does not differentiate the phospho-molybdate, formed by the combination of the molybdate employed and the phosphorus of the cell, from the ammonium molvbdate which has simply been absorbed and retained.

The only undisputed evidence, therefore, adduced by Held in favour of the nucleoproteid nature of these granules is their resistance to digestion. His conclusion is, however, further supported by the observation of Mackenzie who obtained, after treatment with acid alcohol, a reaction for iron in the granules.

In the present research the micro-chemistry of the nerve cell has been reinvestigated by the more recent methods and the results indicate that Held's conclusion is correct, although, as we have seen, based on insufficient grounds.

7 Macallum, A. B., "On the Detection and Localization of Phosphorus in Animal and Vegetable Tissues," Proceedings of Royal Society of London, Vol. LX111, p. 467, 1898.

³ Held, Hans, "Beitrage zur Structur der Nervenzellen und ihrer Fortsätze."

Erste Abhandlung, Archiv. f Anat. u. Phys., Anat. Abth., p. 396, 1895.

Zweite Abhandlung, ibid, p. 204, 1897.

⁴ Eve, F. C., "Sympathetic Nerve Cells and their Basophil Constituent in Prolonged Activity and Repose," Journal of Physiology, XX, p. 334, 1896.

⁵ Mackenzie, J. J., "Investigations in the Micro-chemistry of Nerve Cells," Report British Assn., Toronto Meeting, p. 822, 1897.

⁶ Bühler, Anton, "Untersuchungen über den Bau der Nervenzellen," Verhandlungen der Phys. Med. Gesell, zu Würzburg, XXXI, p. 285, Vetlag von Stahel, 1898.