

Periscope.

UNDER THE DIRECTION OF

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EXPERIMENTAL, PHYSIOLOGY.

Sur les Modifications Des cellules Nerveuses Dans Les Divers Etats Functionals. E. Lugaro, *Lo Sperimentale*, XLIX., fasc. 2, 1895. *Resume de l' Auteur, Archiv, Italiennes de Biologie*, XXI., 1895., pp. 258-281.—In this resumé

the author gives the results of a series of observations made upon cytological changes that take place in nerve cells. He states that he was led to investigate the question because of the great lack of uniformity in the published results of other workers in the field. Thus, Nissl and Vas attribute an increased colorability of the chromophyllic substance to an increased activity of the cells. Hodge and Mann on the contrary to a state of repose. Vas has described an enlargement of the nucleus as due to stimulation; Hodge makes it a reduction. Korybutt-Daszkiewicz and Vas have described an increase in size of the nucleus as a result of fatigue; Hodge and Mann state that the nucleus is decreased in size and somewhat shrivelled.

The author's experiments were conducted on much the same lines as were those of Vas, Hodge and Mann, the cervical sympathetic ganglia of rabbits being electrically stimulated. The ganglia were fixed in absolute alcohol, stained with Methyleneblue, differentiated with alcohol-aniline oil, cleared in oil organum, and xylol and mounted in balsam. A number of graphic representations are given and the details of the following changes are recorded.

1. Dimensions of cells. The greatest diameters were found in those cells that were active after repose and the smallest in those at rest after excessive fatigue.

2. Dimensions of the nucleus. Changes analagous to those found in the cells were recorded.

3. Form of the nucleus. The author failed to find any

shriveling in the nucleus, although they were somewhat smaller after excessive stimulation.

4. Position of the nucleus. No variations of importance were observed.

5. Modifications in colorability. No marked changes in this respect were found by the writer. He, moreover, rejects, and, to us, "for good reasons, the fantastic terms of Nissl, apyknomorph, parapyknomorph, and pyknomorph," and states that the great natural variability in the cells of any given ganglion will not admit of Nissl's classification. The author is inclined, however, to grant that excitation may augment to a slight degree the amount of chromophyllic substance, and fatigue, lessen it.

6. Position of the nucleolus. No changes of any value could be found by the writer.

7. Dimensions of the nucleolus. These were considered as of some importance. Moderate activity having a tendency to increase the size of the nucleolus, which gradually becomes smaller under the influence of excessive fatigue.

JELLIFFE.

The New Formation of Nerve-Cells in the Brain of the Monkey Following Complete Ablation of the Occipital Lobes.

By Dr. Alexander N. Vitzou, of Bucharest. (*La France Med.*, Sept. 27, 1895.)—The removal of the occipital lobes of monkeys and dogs, causes complete loss of vision. Repeating this experiment on a monkey Dr. V. observed that the animal began to notice objects and people again—but with difficulty—about four months after the operation. After two years and two months had elapsed, the perception of objects was greatly ameliorated, the monkey being able to avoid obstacles, which was by no means the case during the first months following the operation. Then the brain was opened again, the trephine openings having been closed by a layer of strong connective tissue, and the space occupied previously by the occipital lobes, was found completely filled out by a newly formed substance, which on microscopical examination was found to contain nerve fibres and pyramidal (nerve) cells. There was more neuroglia and fewer nerve-cells than in the occipital lobes of an adult, but nevertheless there had been a new formation of nerve tissue. This case proves the possibility of regeneration of nerve tissue in the brain if the nutrition of the other parts of this organ is maintained. The explanation is given that the sense of vision improved by the presence of the newly-formed nervous elements. The monkey having been subjected to a second operation, lost his sight in both eyes completely again, and remained in this condition for three and a half months.