

with eosin and toluidin blue, there is in the bodies of most nerve cells no blue-stained substance, while the nucleus is full of blue-stained granules and threads (Fig. 5). On staining sections in the Ehrlich-Biondi mixture, one finds the cell body is red, but all the nuclear chromatin is greenish, and there is no difference in the staining reactions of the nuclei of nerve and neuroglia cells such as is found between these cells in mammals.

The reactions for iron (Fig. 7) and for phosphorus (Fig. 6) show there is no iron and little phosphorus in the bodies of most nerve cells.

In a few cases a little basophile substance was observed in the cell body. In these the cytoplasm also contained a slight amount of iron and phosphorus-holding substance, but the much greater part of this substance, or of the substance staining with basic dyes, is in the nucleus. A sufficient number of specimens to determine the cause of the presence or absence of this slight amount of basophile substance in the cytoplasm have not been examined, but when it is present, it is most frequently diffuse and not in granular form, although the latter, in rare cases, has been seen.

On digestion little material is dissolved from the nucleus, but the oxyphile substance, which was present in traces previously, has now disappeared (Fig 9). Those cells which contain a little basophile substance in the cytoplasm retain it after digestion.

The action of alkalis on the nerve cells of these animals is similar to their action on the neuroglia cells of the adult, or on the nerve cells of embryo mammals. Thus, after six days in a solution of potassium hydrate (0.2%) the nuclei still held a large quantity of material which contained iron and phosphorus, and which stained with toluidin blue. This same solution had removed all the basophile material from the cytoplasm of the nerve cells of adult mammalia in a few hours, but the nucleolus of the nerve cell and the neuroglia cells stained with basic dyes after six days, and the same was true of the embryonic nerve cells of mammals. The nuclei of the neuroglia cells of these Urodela, as in mammals, resist the action of alkalis. There is, therefore, in the former, no difference with respect to the action of alkalis between the nuclei of nerve and neuroglia cells. The slight amount of the basophile material present in some cells is easily and quickly altered by the alkali.

For some reason, the transformation and diffusion of the chromatin has not proceeded, in the cells of the Urodela, past a certain stage, cor-