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**Effects on the Optic Lobes and Nerve Cells of Opticus Layer of
Experimental Extirpation of One Eye in Larvae of the
Tree-Frog (*Hyla regilla*).**

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Frog larvae of 18 to 22 mm. total length were operated by excising the left eye. Optic function had been established some time previously, as indicated by optic reflexes, and optic fibers had grown into the opticus layer, as shown by these reflexes and by histological preparations of pre-operative stages. The operated larvae were fixed at metamorphosis, and were stained by the Golgi method and other methods best adapted to bring out nerve cells and their processes. As previously reported,¹ there was a marked reduction in size of the affected (right) optic lobe, and a reduced number of cells in the 8th and 9th layers. The present study has added the facts that the cells of the opticus layer do not attain the same size as corresponding cells of the opposite side and their dendritic processes fail to show normal development.

These results appear due to the absence of the normal optic stimuli which reach the opticus layer in the unoperated larva, or to the absence of metabolic or other factors directly attributable to these stimuli. The fibers of the deeper layers of the optic lobe were not involved, since the optic fibers, which were destroyed by enucleation, reach only the outermost layer (9th or opticus) and the 7th layer. Nevertheless there was reduced proliferation of cells, which develop in the deep part of the lobe, with resulting hypoplasia of the entire lobe, as well as the incomplete development of the nerve cells in the part directly affected.

¹ Larsell, O., *J. Comp. Neur.*, 1929, **48**, 331.