

The Relation Between Luminous Intensity, Stimulation-Period, and the Latent-Period.

An analysis of the reaction-time shows that the stimulation-period varies inversely with the intensity, *i.e.*, the more intense the light the shorter the exposure required to obtain a response. It also shows that the latent-period varies with the intensity, the higher the intensity, the shorter the latent-period.

It was observed, moreover, that in all the specimens tested the energy required to induce a response rose to a maximum as the intensity increased and then fell, and that in nearly all the specimens, the maximum energy was in 6,000 m.c. This shows that unlike the results obtained in many other organisms, the relation $it=K$, where (i)=intensity, (t) the time, and (K) a constant, does not hold for cercariae under the conditions of the preceding experiment.

A STUDY OF SPONTANEOUS CANCER OF MICE IN
TISSUE CULTURE

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Forty-two tumor bearing mice of several inbred strains were obtained from Dr. Lionel C. Strong of the Jackson Memorial Laboratory. Some of the mice had more than one tumor. The tumors consisted of different types of mammary gland carcinoma. Twenty to forty cultures were prepared from each of the tumors.

An abundant growth of the epithelial cells took place so that at the end of three or four days membranes of malignant epithelial cells two or three times as wide as the original explant surrounded the small bit of cancer. The cells grew out, forming broad flat cells much thinner than a section could be cut. In these cells it was possible to follow the behavior of the mitochondria, the granules, the nucleus, the nucleolus, and the chromosomes.

Many results were obtained and it is hoped that further study will reveal some interesting conclusions, particularly in regard to the behavior of the chromosomes in the tumors arising in the different strains of mice.

Most of the growth of the cancer cells contained dividing cells with more than the normal number of chromosomes.

The growth of the tumors found in certain strains of inbred mice contained more abnormal cells and abnormal mitotic figures than the growth of the tumors of other inbred strains. Results bearing upon the time of splitting of the chromosomes to form the two daughter chromosomes were obtained which probably apply to the dividing normal cells as well as to the cancerous cells. It is hoped that it will be possible to continue the studies on these tumors during the summer of 1932.