

culture. This is quite remarkable, because the living agent of cyanolophia is not surpassed in virulence by any other virus.

The next series of experiments will deal with the attenuation of the living agents of cyanolophia in brain and liver tissue cultures and with the importance of these and the white bone marrow tissue cultures for active immunization.

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Experiments on the physiology of digestion in Blattidæ.

By **ELDON W. SANFORD.** (By invitation.)

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The question as to whether fat is digested and absorbed in the crop of the cockroach was answered in the affirmative by Professor Petrunkevitch in 1898, but in the negative by more recent authors. My investigations, which were done under the direction of Professor Petrunkevitch, show that fat is split to soluble products and absorbed in large amount in the crop, the process being observable as gradually more and more in the crop's epithelial cells at successive intervals up to forty-eight hours, and gradually less afterward. Some cells absorb so much that they appear solid black when stained with osmic acid. Ligation of the crop from the stomach does not hinder or modify the process. Fatty acids are absorbed like fats.

At certain intervals after fat feeding much fat is found in the tracheal tubes, sometimes filling them, sometimes in a thin layer on their walls, sometimes only on the supporting spirals, and sometimes mingled with chyme. This chyme resembles that normally present in the crop lumen; it is regularly present in some of the tracheæ, and in it leucocytes are often found. The chyme is evidently a normal content. The fat enters the tubes through the tracheal end cells, after being absorbed by them from the lumen of the crop.