

## DISCUSSION AND CORRESPONDENCE

A CULTURE MEDIUM FOR *EUGLENA*

A MEDIUM discovered quite by accident has enabled the writer to carry on vigorous cultures of *Euglena* for a period of more than a year. Some five hundred cultures have proved conclusively that it is a success. The medium is quince-seed jelly, which is in common use as an agent for retarding the movements of Protozoa. It is prepared by boiling quince seed in distilled water, passing the thick, glutinous mass which is obtained through a sieve to remove particles of the seed and then diluting with distilled water to the desired consistency. Cultures have been carried in test tubes, jars, flasks and other receptacles. Some tubes remained corked throughout the entire year and were found to contain virile cultures at the end of that time.

The jelly seems to be specific for *Euglena*, some other chlorophyll-bearing Protozoans and for bacteria. Tubes were inoculated with cultures of mixed Protozoans and after a period of two months only the *Euglena* and a minute green flagellate survived, the other Protozoans living only as long as the supply of bacteria lasted.

Two hundred successful transplants have been made from a single culture.

The medium has several obvious advantages:

1. It enables the operator to carry on cultures for a long period of time without giving them constant attention.

2. The medium is viscid and evaporates rather slowly.

3. A constant as regards density and chemical content may be obtained for experimental work by evaporating the medium to dryness and making up a standard solution with distilled water.

The results of a year's experiments together with some notes on the behavior of *Euglena* are soon to be published.

CLARENCE L. TURNER

DEPARTMENT OF ANATOMY AND BIOLOGY,  
MARQUETTE UNIVERSITY SCHOOL OF MEDICINE

## A RELIEF MAP OF THE UNITED STATES

TO THE EDITOR OF SCIENCE: The article entitled "Expedite the Map," which appeared in

the October 13 issue of SCIENCE, brings to mind the desirability of having in the city of Washington, suitably housed, a large scale relief map or model of the United States.

This model might be about 300 feet square or 600 feet square, according to the structural difficulties which would be encountered and the amount of appropriation which could be obtained from Congress or other source.

As to the appropriation, I doubt that it would be easy to secure funds from Congress for an object of this kind, and I believe that it would be better to depend upon private philanthropy to secure the financial foundation needed.

The statement "Every industry, art and science which demands a knowledge of the lay of the land is benefited by good maps of the area in which it is carried on," and the remainder of the paragraph from which this sentence is quoted apply equally to a relief map.

Such a map, if constructed, would be available for consultation by members of Congress, bureau officials and by the general public; and it would be one of the sights of the national capital. The main problem is to find the philanthropist.

T. W. KINKAID

## LEIDY ON THE CAUSE OF MALARIA: A CORRECTION

IN a letter to Professor Henry Fairfield Osborn, published by him in his "Biographical Memoir of Joseph Leidy,"<sup>1</sup> I stated that in 1853 Leidy "discussed the cause of malaria and wrongly concluded that it is not of parasitic origin." Dr. Joseph Leidy, 2d, has kindly called my attention to my regrettable blunder. What Leidy really said<sup>2</sup> was:

That malarial and epidemic fevers have their origin in cryptogamic vegetables or spores requires yet a single proof. If such were the case, these minute vegetables and spores, conveyed through the air, and introduced into the body in respiration, could be detected.

FRANK E. LUTZ

<sup>1</sup> National Acad. Sci., Biographical Memoirs, VII., 1913, p. 356.

<sup>2</sup> Smithsonian Contrib. Knowledge, V., 1853, p. 14.