process may be different in different organisms, but I consider it rather improbable in view of the fact that both para- and telosynapes have been described for different groups of plants and animals, and especially since certain "evidences" involved in the argument are not easily observable.

Summing up: contrary to the general belief, so-called end-to-end conjugation does offer an opportunity for interchange between chromosomes at the late thick thread stage in the prophase of maturation division, but at this stage only. If telosynapsis is a universal phenomenon, it would seem that crossing over must take place at the stage here specified. Of course, no morphological evidence has yet been produced for crossing over, and the most that can be said from the present cytological data is that such an interchange is not impossible at a certain stage in the muturation division.

Waro Nakahara

DESTRUCTION OF ZOOSPORES OF PLANT DISEASE ORGANISMS BY NATURAL ENEMIES

In making some motion-picture photomicrographs of the liberation of zoospores from the sporangia of *Physoderma zeæ maydis* (see Tisdale, *Jr. Agr. Res.*, Vol. 16, p. 137, 1919) the author observed destruction of the zoospores by certain animalcules which are commonly found in decaying vegetable material. No reference has been found regarding the importance of these natural enemies of the plant diseases which are disseminated by zoospores.

The number of zoospores swallowed by one rotifer (*Proales* sp.) is remarkable. When the animalcules are abundant there is a speedy disappearance of the zoospores. One infusorian (*Keronia* sp.) was observed to devour a perfect stream of the zoospores of *Physoderma,* at the same time increasing in size until it became gorged almost beyond recognition.

In active cultures one may see a field in the microscope filled with millions of zoospores swimming about. In a few hours large numbers of these have been devoured by the animalcules, which rapidly increase in numbers. A few hours after this one then sees these same protoplasm constituents swimming about not as zoospores but as animalcules. The process of change is so rapid it makes one wonder if there is always cleavage of the proteins and resynthesis or whether there may not be some shorter method of assimilation especially in the unicellar organisms in which the cytoplasms of the infusorian and the zoospore ingested are in such intimate contact.

In starting from dry material collected from cornstalks infested with *Physoderma,* the animalcules appear first and are on hand for each crop of zoospores.

It would be desirable to determine just how important such animalcules are as natural enemies of those plant diseases which are disseminated by zoospores. Also we should collect data to determine if the destruction of the soil animalcules by excessive liming may not be correlated with epidemics of these diseases.

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THE JOURNAL OF MORPHOLOGY

At its annual meeting in St. Louis, the American Society of Zoologists voted to accept the proposition made by Dr. M. J. Greenman, of the Wistar Institute, that in the future the society should assume control of the scientific policy of the *Journal of Morphology* and elect the editorial board, while the Wistar Institute retained control of the financial management of the journal.

A committee composed of M. M. Metcalf, Caswell Grave and W. E. Castle was appointed to initiate a scientific policy; to nominate an editorial board; to consult with the advisory board of the Wistar Institute and to refer its recommendations for final decision to the executive committee of the society.

This committee on publication and the executive committee and the Wistar Institute have agreed to the following action which accord-