

78 (334)

The life cycle of paramecium.By **LORANDE LOSS WOODRUFF.**[*From the Sheffield Biological Laboratory of Yale University.*]

On May 1, 1907, a culture of *Paramecium aurelia* (*caudatum*) was started with a "wild" individual from a laboratory aquarium, and since that time up to the present (May 20, 1908) it has been under daily observation. Hay infusion was employed as a culture medium during the first few months of the life of the culture, but later the culture medium has been constantly varied by employing water from different sources and to this water has been added any material which might be encountered in the natural habitat of *Paramecium*. In every case precautions have been taken to sterilize the infusion before using it in order to obviate the possibility of contaminating the culture by introducing a live cyst of a "wild" *Paramecium*. Conjugation has not been possible in the direct line of the culture because the individuals of the culture have been isolated almost daily.

Under these conditions the culture has so far attained 490 generations. During the greater part of the year the average rate of division of the culture has been between one and two divisions per day, and not during a single ten-day period has it averaged as low as one division in two days. Thus no period of marked physiological depression has been indicated by the division rate, and no special stimuli have been found necessary to save the culture from extinction.

The results obtained up to the present time show that the life cycle of *Paramecium*, when subjected to a varied environment, may be much longer in duration of time and may comprise many more generations than when subjected to a constant culture medium of hay infusion, as has been the case in previous investigations in this field.