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**On the power of reproduction without conjugation in
Paramecium.**

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I have presented to this society the results obtained to May, 1909, on the life cycle of *Paramecium* when subjected to a varied environment. This communication brings the results up to date (May 18, 1910).

A culture of *Paramecium aurelia* was started May 1, 1907, by the isolation of a "wild" individual from a laboratory aquarium, and it has been under daily observation during the thirty-six and a half months which have elapsed since that time. Infusions of hay and grass, together with any material that may be found in the usual habitat of *Paramecium*, have been employed as a culture medium. The possibility of infecting the culture with "wild" strains has been avoided by boiling the infusion. Daily isolation of an individual from each of the lines of the culture has prevented the possibility of conjugation taking place, and has enabled me to obtain an accurate record of the division rate.

So far the culture has attained the 1,795th generation. The average rate of division for the thirty-six and a half months has been more than one and a half divisions per day. The average rate for any ten-day period has not fallen as low as one division in two days, while it has been for several ten-day periods more than two and a half divisions per day. Therefore, since marked physiological depression has not been indicated by the division rate, special stimuli have not been resorted to at any time to "rejuvenate" the culture.

The results derived up to the present time from the study of this culture show that under the conditions of a suitable, varied environment *Paramecium aurelia* does not necessarily undergo "cyclical" changes in general vitality, and give strong reasons for believing that the life history of this organism may be of unlimited duration without conjugation or artificial stimulation.