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**Observations on uricolysis, with particular reference to the
"uric acid infarcts" of the newborn.**By **H. GIDEON WELLS** and **HARRY J. CORPER.**[*From the Pathological Laboratory of the University of Chicago.*]

Mendel and Mitchell demonstrated that in the embryo pig the enzymes concerned with purin metabolism appear at different stages of development, the uricolytic power not appearing until after birth and being feeble during the first months of extra-uterine life. If the same late development of uricolytic power were present in the human fetus it would explain the occurrence of deposits of urates in the kidneys of newborn infants. Schittenhelm and Schmidt alone have studied uricolysis by infantile and fetal tissues, and have claimed to get active uricolysis. This result is questionable, because later work by Kunzel and Schittenhelm indicate absence of uricolysis by adult tissues. We have found no evidence whatever of uricolytic activity on the part of fetal tissues at any stage of development, nor of adult tissues. The latter observation is in harmony with the negative results obtained by Wiechowski in experiments *in vitro* and *in vivo*, and indicates that the human body has little if any power to destroy uric acid. The statements in the older literature that allantoin is found in the urine of pregnant women has been disputed by Wiechowski, and our failure to demonstrate uricolysis by human placenta as well as other fetal or adult human tissues points in the same direction.

Additional observations are the demonstration of active uricolysis by the liver of the guinea pig, absence of uricolysis by spleen, bone marrow and probably the leucocytes of the dog, and the apparent absence of inhibitory power of dog serum upon uricolysis by dog liver.

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Studies on the life cycle of Paramecium.By **LORANDE LOSS WOODRUFF.**[*From the Sheffield Biological Laboratory of Yale University.*]

A year ago I reported to this society the results obtained up to that time on the life cycle of *Paramecium* when subjected to a

varied environment. I wish now to bring the results up to date (May 26, 1909).

A culture of *Paramecium aurelia* (*caudatum*) was started on May 1, 1907, with a "wild" individual isolated from a laboratory aquarium, and during the twenty-five months which have elapsed since that time it has been under daily observation. Infusions of hay and grass together with any material that may be found in the normal habitat of *Paramecium* have been employed as a culture medium. The possibility of contamination by cysts or "wild" *Paramecia* has been eliminated by boiling the infusion. Daily isolation of an individual from each of the various lines of the culture has enabled an accurate record of the division rate to be kept and has precluded the possibility of endogamous conjugation.

So far the culture has attained the 1,185th generation. The average rate of division for the entire period is over one and a half divisions per day. The average rate has not fallen during any ten-day periods as low as one division in two days, while during several ten-day periods it has averaged over two and a half divisions per day. Marked physiological depression has not been indicated by the rate of division and consequently special stimuli have not been employed to "rejuvenate" the organisms.

The results thus far obtained certainly show that the life cycle of *Paramecium* when subjected to a varied environment may be of very great duration, and, I believe, strongly suggest that the life history may be of unlimited duration.

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Immunity to various species of trypanosomes induced in mice by the cure of experimental infections.

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When properly treated a temporary immunity was secured against the organisms of surra of India, surra of Mauritius, caderas, dourine and nagana. The immunity was specific in the sense that it was active against the species cured but not against any other. The immunity varied with the virus, the medicament, the time at which the immunity tests were begun, the number of the tests, the