

mals and in one animal which received an intravenous infusion of dextrose. The results may be briefly summarized as follows: The exudate of pulmonary edema contains dextrose or a reducing substance. The concentration seems to be in general equal to that of the blood. Two hours or longer after an intramuscular injection of adrenalin the exudate of the pulmonary edema may contain 0.5 per cent. and more of dextrose, a quantity, which, at least so far, usually slightly exceeded that of the corresponding blood.

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The effect of culture medium contaminated with the excretion products of *Paramæcium* on its rate of reproduction.

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A summary is presented of the initial experiments of a series which is planned to elucidate, if possible, some of the complex factors at work in a "hay infusion"; for example, such as those which determine the inter-dependence of the organisms, their sequence, time of appearance, disappearance, etc. The data outlined were derived from the study of: (a) the effect of different volumes (2, 5, 20 and 40 drops) of culture medium on the rate of reproduction of *Paramecium*; (b) the effect of changing the culture medium daily and on alternate days on the rate of reproduction of *Paramecium*; and (c) the effect of culture medium, in which large numbers of paramæcia have been living, on the rate of reproduction of *Paramecium*. It is believed that the results obtained justify the following conclusions:

1. The rate of reproduction of *Paramecium aurelia* and *Paramecium caudatum* is influenced by the volume of the culture medium, within the limits tested, and the greater the volume the more rapid is the rate of division.

2. Paramæcia excrete substances which are toxic to themselves when present in their environment, and these substances are more effective when the organisms are confined in limited volumes of culture fluid.

3. The excretion products of paramæcia play an appreciable part in determining the period of maximum numbers, rate of decline, etc., of this animal in "hay infusions."