Both tannic acid and mercuric chloride increased the fragility of these cells slightly. To determine whether or not any of the differences are statistically significant an analysis was made of 44 control values and 65 observations in each of the most concentrated solutions of tannic acid and mercuric chloride. The values in 0·45 per cent sodium chloride were used since the greatest differences were observed in this solution. Using the Student *t*-test, the difference between the cells in the presence of mercury and the controls is significant at the 1 per cent level, and between tannic acid and the controls at the 0·1 per cent level. Neither of these substances produced a significantly different value for the initial volume.

The results of the investigation of the effect of these two substances on $\bar{V}_h$ are summarized in Table 1. It can be seen that high concentrations of tannic acid decrease the hæmolytic volume significantly. Mercury, however, in the concentrations used had no statistically significant effect on this parameter.

Comparing the present results with those previously reported on the effect of 'Triton' (ref. 5), it can be seen that none of these three substances has a marked effect on the initial volume. 'Triton' decreases, while mercury and tannic acid increase, the fragility of these cells. Mercury has no effect, tannic acid decreases and 'Triton' increases the hæmolytic volume. These observations can readily be reconciled with the suggestions previously made that each of those substances is acting on the membrane in a different manner.

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Laser in Cytology

THE article by Lang *et al.*[1] suggests that the ruby crystal laser, without mode control, is incapable of producing small areas of tissue destruction, and also that the triocular microscope is not usable. In this laboratory we have been using a ruby crystal laser and a triocular microscope as a routine instrument in biological investigation. The laser, originally designed for ophthalmological coagulation[2], has been modified to be easily connected to the microscope. In numerous experiments we have achieved areas of tissue destruction of $< 2\mu$ diameter, and Fig. 1 shows the effect of the pulsed ruby crystal laser beam on a gametophyte cell of the fern *Osmunda cinnamomea* L. It is worth remarking that we have investigated, theoretically, the temperature distribution in material irradiated by a focused laser beam in the system presented by the retina–choroid interface[3]. We are at present conducting a series of experiments on the volume/temperature relationships of laser irradiation in the case of homogeneous media and have shown, conclusively, the possibility of producing tissue destruction confined to the nucleus of a single cell.

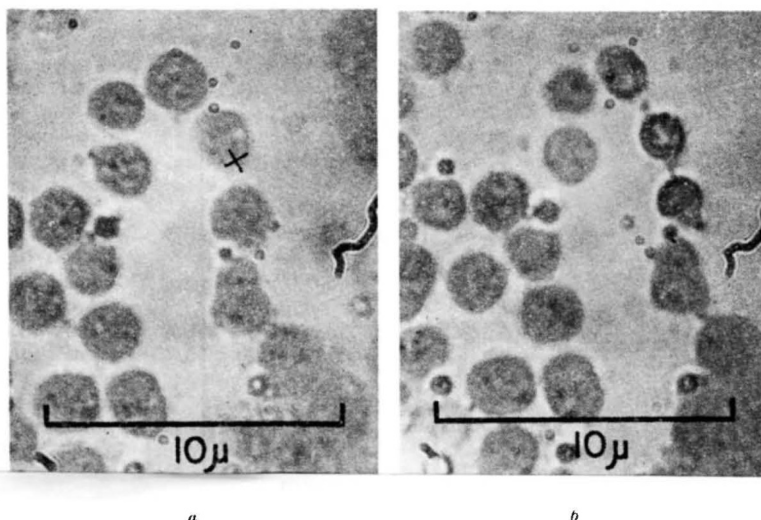

Fig. 1. Effect of a ruby laser beam burst on a living gametophyte cell of *Osmunda cinnamomea* L. (*a*), Before laser beam: the cross marks the point on the chloroplast at which the beam was aimed; (*b*), after a single laser beam burst of approximately 10 m joule into the triocular microscope

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VIROLOGY

Effect of Urea on A_2 Influenza Virus

ALTHOUGH many investigations have been reported concerning the action of concentrated urea solutions on plant viruses, relatively few papers discussing the reaction of this reagent with animal viruses have been published.

Cooper[1] has recently described, in some detail, the action of urea solutions on poliovirus. He found that 7·2 M urea initially induced slight surface changes in poliovirus particles and these changes were followed by rupture of the particle. Loss of infectivity and release of RNA were associated with this rupture.

The effect of urea on the hæmagglutinin of influenza virus has been reported by Scott and Lauffer[2], who investigated the action of urea on the thermal stability of hæmagglutinin. Buckland and Tyrrell[3] have recently briefly recorded the response of influenza A_2 virus hæmagglutinin to urea solutions of varying concentration.

In the present work, the effect of concentrated urea solutions on a number of properties of influenza A_2 virus has been investigated. Purified preparations of *A*/Sing./1/57 were prepared by adsorption of virus from infected

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