embryos. Embryos of the in-bred line responded with approximately the same number of membrane lesions as hybrid White Leghorn-Australorp embryos when inoculated with leucocytes from an unrelated donor fowl. However, when cells from an in-bred donor were placed on the chorioallantoic membranes of isologous embryos, the number of lesions which occurred was far less than the number produced by the same cell suspension on unrelated hybrid embryos.

The investigations made to date indicate that the nodular chorioallantoic membrane lesions result from an immunological reaction between the adult cells and embryonic recipient, presumably of the 'donor versus host' type. The data suggest that the production of lesions requires a significant antigenic disparity between donor and host. In regard to the number of nodules produced, it is a reasonable assumption that each lesion arises as a result of the effective implantation of a single donor cell, but further work will be needed to establish what factors are responsible for the ratio of 10^4–10^5 : 1 between cells inoculated and nodules observed. It may be that a large fraction of the leucocytes are potentially capable of nodule formation but that essentially accidental factors allow only a minute proportion actually to initiate production. At the other extreme, it may be that a very small proportion of cells predetermined to react with the effective isoantigens are responsible for the lesions.

Irrespective of the way the nodules are initiated, it seems legitimate to regard them as arising by proliferation of immunologically competent donor cells in response to antigenic stimulation by components of the embryo. If this view is correct, the phenomenon of chorioallantoic nodule formation should provide a useful approach to certain of the problems of current immunological theory, and may be particularly relevant to the clonal selection hypothesis of Burnet[6].

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Influenza A′ Infection of Cultured Cells of Whole Mouse Embryos

Cells of whole mouse embryo grown in culture have been used for work with polyoma virus[1,2], and influenza viruses have been grown in cultures of other mammalian tissues such as monkey kidney[3,4], human embryo kidney and lung[5] and bovine embryo kidney[6].

For a recent study of the 'eclipse' phase in the multiplication of influenza *A′* virus, the virus was grown in cells of mouse embryo lung[7]. A greater quantity of tissue can be obtained for culture more easily by using whole mouse embryos, and as is described below, such cultures support the growth of this virus.

Whole mouse embryos taken from stock albino mothers bought from a dealer were weighed, chopped up and treated with trypsin. The cells so released were suspended in a medium consisting of inactivated normal rabbit serum, 1 part, 2·5 per cent lactalbumin hydrolysate, 1 part, and Hanks's balanced salt solution, 8 parts, together with sufficient penicillin, streptomycin and mycostatin to control possible contaminants. Such a cell suspension, containing 5–10 × 10^5 cells per ml., was put into insulin vials in 2 ml. lots and produced monolayer cultures suitable for infection with virus after incubation for 18 hr. at 36·5° C.

Infection was achieved by removing the medium from the cells and, after washing them with balanced salt solution, replacing it with the same volume of a 1 : 50 dilution in 5 per cent normal rabbit serum in balanced salt solution of homogenized mouse lung suspension, representing a later passage of the strain of influenza *A′* used in the earlier work[7]. The cells were held at 36·5° C. for 45 min.; then the infecting suspension was removed and kept for infectivity titration in hens' eggs. The cells were washed in 3 changes of balanced salt solution and their original medium restored. This medium was sampled for infectivity titration 2 hr. and 24 hr. after the first contact of the cells with the infecting suspension.

Table 1. Growth of Influenza *A′* Virus in Cultured Cells of Whole Mouse Embryos, showing Embryo Weights

Experiment	Embryos, Mean wt. (gm.)	50 per cent Egg Infective Dose (ml.) Infecting suspension	Culture medium 2 hr.	Culture medium 24 hr.
1	0·08	$10^{-6.2}$	$10^{-1.7}$	$10^{-3.5}$
2	0·11	$10^{-4.7}$	$10^{-2.5}$	$10^{-3.6}$
3	0·31	$10^{-4.6}$	$10^{-2.3}$	$10^{-4.6}$
4	not recorded	$10^{-4.8}$	$10^{-2.9}$	$10^{-5.6}$

As can be seen from Table 1 the system supported multiplication of the virus, the increase in infectivity for eggs in 22 hr. ranging from 0·5 to 2·8 $\log_{10}$ units. This increase may be compared with the finding that medium removed from infected cells at 2 hr., when its mean 50 per cent egg infective dose in three further experiments was $10^{-3.1}$ ml., was rendered completely non-infective by 22 hr. incubation at 36·5° C. in the absence of cells.

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Action of Antibodies and Plasmin on Ehrlich Ascites Tumour Cells

The mechanism of cell destruction in allergic inflammation is not well understood. Two explanations for production of cell damage have, however, been proposed: (*a*) that the antigen-antibody reaction causes, in some non-specific manner, permeability changes in cells which result in the release of active

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