particularly, but with loss of definition of some lines fortunately of less interest (Fig. 2). When this same preparation was washed and stained as described by Crowle², the slender line was even more clearly defined as shown in Fig. 3 and its enlargement (Fig. 4), despite the additional weakening of other lines due to washing out in the staining process. In fact, with the higher magnification in Fig. 4, where it lies opposite and nearest the HCG well, it can now be seen to be double, each component establishing continuity with a line opposite the HLH well. The two lines run close together and are parallel. In Fig. 4 they can clearly be seen crossing midway between the HLH and HCG wells to join the corresponding lines opposite the HLH side. Their disposition indicates that the two antigens concerned are shared by both HLH and HCG, and it is clear that a preparation such as that shown in Fig. 1 was inadequate to demonstrate the double nature of the slender line opposite the HCG well.

Further manipulation of the photographic exposure time provided additional evidence of the dual nature of this line. When short exposure time was applied as in Fig. 5, this seemingly single slender line opposite HCG was shown clearly, but at the same time its connexion with the line complex opposite sheep LH was obscured. On the other hand, longer exposure, as shown in Fig. 6, renders the slender line invisible opposite the HCG well, but clarifies its interaction with lines opposite sheep LH. It can be seen that there is a lack of identity (continuity) with the strong line complex nearest the antiserum well, but identity (continuity) is established with two lines more peripherally nearest the ovine LH well which were previously¹ shown to represent LH and HCG.

HLH and HCG therefore share, in unequal proportions, four antigenic components. On the basis of information gained in our previous study from agar gel diffusion, immunoelectrophoresis, and haemagglutination, three of these lines can be identified with some certainty. The line closest to the antiserum well represents an FSH contaminant and the two slender lines nearest the antigen wells (Fig. 4) represent HLH and HCG, a spatial relationship similar to that noted by Paul and Ross³. The precipitin line specific for the LH/anti-LH reaction is closest to the HCG well, and the line specific for the HCG/anti-LH reaction is closest to the HLH well. They cross at a point midway between the two wells to join identical lines on the other side. This interchange of position tends to verify the logical assumption that there was less HLH in the HCG preparation than in the pituitary extract. The close proximity of the two components is consistent with their similar molecular weights which are considered to be approximately 30,000 (ref. 4). The nature of the fourth component is not yet certain.

These findings indicate that HLH and HCG molecules represent distinct antigenic entities. They disagree with the point of view expressed by many^{3,5-9} that these molecules are either identical or partially so, but agree with the conclusion of studies with antiserum to HCG by Isersky *et al.*¹⁰ that the cross-reacting element in HCG represents a pituitary LH contaminant.

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Graft of Histocompatibility Genes in Sublines of Inbred Mice

A PROGRAMME of routine skin grafting is used at the Laboratory Animals Centre to check the homogeneity of our colonies of inbred mouse strains with respect to histocompatibility genes. The donor and recipient mice are usually six to eight generations apart. During the transfer of these inbred colonies from conventional buildings to isolated buildings free from pathogens it became necessary to graft between mice separated by two to sixteen generations.

In all our colonies, mice ten generations apart have accepted each other's homografts. The same may be said of mice separated by twelve generations for most colonies, and of those separated by as many as fourteen and sixteen generations from some colonies. On the other hand, mice from some colonies have rejected grafts when six generations apart. A study of the results led to the conclusion that the number of rejections and minor incompatibilities are characteristic of particular mouse strains rather than of the genetic distance between donor and recipient.

Subline divergence was probably first systematically investigated in 1954 by McLaren and Michie¹, and was also mentioned by Billingham, Brent, Medawar and Sparrow². It has recently been studied both by Linder³ and Kindred⁴, using the graft of histocompatibility genes between sublines of mice. The single-line system of mating used in our colonies was instituted to reduce this intra-strain variation as much as possible, and it has been successful in that out of 529 mice that received grafts we found a total of only 2 per cent rejections. Subline divergence was, however, apparent in those strains from which mice showed graft rejection when six generations apart (found also by Paterson, personal communication). Because of these findings, we suggest that for a large scale grafting experiment it would be unwise to use animals outbred beyond two generations from the primary type colony.

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Induction of Neoantigen (G) in Human Amnion ("WISH") Cells by Herpes Virus A

PREVIOUS work has described the presence of a specific soluble complement fixing¹ and precipitating² antigen in some human tumours. This antigen, called G, was first found in the aqueous phase after the extraction of HeLa cells with fluorocarbon¹, and since then in other human cell lines of malignant origin^{3,4}. G antigen has not been found in cells of a variety of non-malignant adult and embryonic human tissues², and with only one exception, in non-malignant⁴ cell lines. An apparent correlation has recently been shown between the presence of the G antigen and the heterotransplantability to the hamster cheek pouch of several sublines of the KB cell⁵.

There is no predictable pattern of G antigen occurrence among the human tumours that have been investigated. A similar apparently random distribution of a similar antigen has been described recently by McKenna and Prier in canine tumours⁶. It seems possible that some