whereas 100 mg/ml. of the same salt failed to neutralize amphotericin B or potentiate neomycin. As for the other substances investigated, 20 mg/ml. of gastric mucin was able to neutralize the anti-candidal activity of gentian violet but the maximum concentration employed with this substance, 50 mg/ml., had no such effect upon amphotericin B. Similarly, while lecithin, 6 mg/ml., neutralized gentian violet, 50 mg/ml. was ineffective against amphotericin B. As little as 1 mg/ml. cholesterol, on the other hand, did neutralize amphotericin B but 50 mg/ml. of the same compound was required to achieve the same effect with gentian violet. No potentiation of the anti-staphylococcal activity of neomycin was observed with the maximum concentration used of mucin, lecithin or cholesterol, 50 mg/ml.

It is noteworthy that every bile salt that proved effective in amphotericin B and gentian violet neutralization, neomycin potentiation and enhancement of intraperitoneal staphylococcal virulence for mice, is able to lower surface tension significantly as determined by the capillary tube method⁶, whereas the one bile salt that was ineffective, sodium dehydrocholate, does not possess this property⁴. For this reason the existence of a possible relationship between the possession of this physical property by a substance and its ability to effect both the *in vitro* and *in vivo* effects under consideration is readily suggested. No explanation is forthcoming for the irregular action in this regard of mucin, lecithin and cholesterol, all which possess significant surface tension lowering ability⁵.

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CYTOLOGY

Isolation of Nuclei from Animal Cell Suspensions

IN a previous communication, a method for the quantitative isolation of nuclei from HeLa cells was described¹. The nuclei were isolated by stirring the cells in a dilute solution of 'Tween 80' under controlled conditions. It seems worth reporting that the method has now been successfully applied to strain L, Chinese hamster, Ehrlich ascites and Krebs 2 ascites tumour cells. It appears likely that it will prove to be applicable to a wide range of animal cell suspensions.

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GENETICS

Homeostasis and the F_1 Hybrid

IN his letter defining 'social homeostasis' Mackintosh¹ has referred to the uniformity of first crosses of inbred strains as compared with the parental stocks citing the monograph by Lerner² and the more recent review by Biggers, McLaren and Michie³. These authors are perhaps influenced by their genetic theories. The results of experiments performed by Dobzhansky and Wallace⁴ justify their conclusions that "homeostatic adjustments are superior in heterozygotes to those in homozygotes". However, Lerner himself points out that most other experimental work cannot provide unequivocal evidence on the role of heterozygosity in developmental homeostasis as "even when the phenotypic F_1 variance is lower than the parental average, the reduction may have been due to the genetic and not to the environmental component".

It is unwise to suppose that because results with a particular anaesthetic using two inbred strains and their reciprocal hybrids suggest superior development homeostasis of the heterozygotes all other first crosses will fall into line. In work with pentobarbitone sodium, Brown⁵ showed that both F_1 crosses out of DBA/1 and A2G strains resembled DBA/1 strain more nearly in the precision of their responses measured by λ . One of these hybrid strains A2DB/1 F_1 gave a response to insulin (Brown⁵) well outside either of its parent strains and significantly less precise than its parent the DBA/1 strain. Further, the responses of the F_1 hybrid strains A2CF₁ and CA2F₁, each more closely resembled its maternal parent. These results may be compared with those noted by Chai⁶ and by Grüneberg⁷. From the literature it would appear, therefore, that there is no general rule as to the response of inbred strains and F_1 crosses and for any particular experimental procedure the choice between inbred and F_1 animals can only be made after preliminary testing and observation.

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⁵ Brown, A. M., *J. Pharm. Pharmacol.*, **13**, 670, 679 (1961).

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THE second paragraph in Brown and Dinsley's communication might be construed to refer to my communication on the effects of strain and group size on the response of mice to 'Seconal' anaesthesia. If this is indeed true, I would like to point out that I nowhere suggest that "because results with a particular anaesthetic using two inbred strains and their reciprocal hybrids suggest superior development homeostasis of the heterozygotes all other first crosses will fall into line". In fact, if Table 1 of that communication is referred to it can be seen that particular environmental conditions can result in equal amounts of variation being shown by both the heterozygote and the homozygote, for example,