stock under conditions of weak illumination the possession of red or white eyes might make the difference between a fly's crawling toward the light or not crawling at all, an enormous difference in behavior, whereas under other conditions the same factor might produce little effect. It also seems likely that the large behavior difference observed in mice was associated with a threshold of training.

The sort of situation in which heredity may shift the threshold of stimulation or performance is theoretically possible in any animal. Human life (at least in the United States) appears to have many threshold situations, from athletic contests to social barriers. Acting as a "last straw" in certain special environments it is possible that heredity may produce in the behavior of human individuals differences whose importance is all out of proportion to its general effect.

Certain words of caution regarding this suggestion need to be spoken. Differences produced by environmental factors may also be magnified by a threshold. Because of the presumably greater powers of learning of human beings it must be expected that heredity will be found to have smaller effects upon behavior than in the lower animals. Furthermore, this idea applies only to individuals under special conditions and does not apply to large groups with variable heredity and environments.

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PHOTOGRAPHY OF CRYSTAL STRUCTURES

SIR LAWRENCE BRAGG[1] has shown that Fourier series summations of x-ray diffraction data from a crystal can be made optically, yielding "photographs" of the crystal structure, in which the individual atoms are seen in their proper relative positions. The method is essentially a superposition of exposures of patterns of light and dark bands, the choice of band patterns and the lengths of exposure being determined by the x-ray data.

As shown previously by the writer,[2] this method can be made much easier and faster by the use of a previously prepared set of masks, on which the proper patterns are printed. The same set serves for all structures and for both electron density summations and Patterson summations. A set of 316 such masks, on a roll of 35 mm film, has recently been prepared in these laboratories. With it, pictures of structures for which suitable x-ray data are available can easily be made in a half hour. Magnifications of 100,000,000 or more are readily obtained.

Although the accuracy of atomic positions and of relative electron density values at different points in the structure is undoubtedly less than can be obtained by computational methods, the ease and speed of the photographic method should make it useful both in working out new structures and as an aid in the description of structures which have already been deduced.

We hope soon to be able to furnish duplicate copies of our new set of masks, at a nominal cost, to others engaged in crystal structure analysis.

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[1] W. L. Bragg, *Z. Krist.*, A70: 475, 1929; "The Crystalline State," p. 229, London and New York: Macmillan. 1934.

[2] M. L. Huggins, *Jour. Am. Chem. Soc.*, 63: 66, 1941.

HUMAN GENETICS AND ANTHROPOLOGY

ANTHROPOLOGISTS and human geneticists have many problems in common, and it would seem that they would see eye to eye on major issues. They probably do on most, but apparently not on all. At least in recent comments in SCIENCE Professors Herskovits[1] and Ashley Montagu[3] have questioned the actuality or even the reasonableness of the existence of physiological and inherent response differences between major subdivisions of the human species.

In my comment[2] on Professor Herskovits's note I wrote: "If primary human stocks (Mongoloid, Negroid and Caucasoid) and if subdivisions of these major groups ('races') have any validity at all, and the author believes that Professor Herskovits will admit that they do have some, it seems almost inevitable that both physiological and inherent response differences must exist." In a later issue of SCIENCE Professor Ashley Montagu[3] commented as follows: "At first blush this seems a reasonable enough statement but when one inquires why it appears to be so it will be found that it is suspected that physical characters are probably linked with functional ones, that there is a genetic linkage between the genes for the two different orders of phenomena." He continues: "If such is the ground upon which this assumption is usually made then it ceases to be a reasonable one, for the good reason that it is based on no more than a suspicion or a hunch and not upon facts which are known to exist or have been demonstrated." He adds later, "Genetic linkage between particular physical traits and particular psychological traits is a phenomenon unknown outside folk belief."

May I add at once that the reason presented by Professor Ashley Montagu is not the one which makes it seem almost inevitable that inherited physiological and psychological differences exist between primary human stocks and races. In fact, the reason he presents has no bearing on the question at issue. The

[1] SCIENCE, n.s., 100: 457–461.
[2] SCIENCE, n.s., 100: 146–147.
[3] SCIENCE, n.s., 100: 383–384.