We think such an explanation suffices to show how hereditary characters of many generations may be conveyed in a small number of complex molecules; how these molecules may be altered (being proteidogenous molecules) by amphimixis (that is, mingling with other molecules) and by environment (that is, by interchange with the surrounding cytoplasm); how they may lose entirely certain side-chains, and thereby certain properties, even if these are hereditary.

The Inheritance of Acquired Characters.—Are acquired characters transmitted? is a long-argued question. Contrary to the dominant teaching of the morphologists we think that some few, but by no means all, may be. It has been indicated before that we picture the biophoric molecule as in interaction with the cytoplasm that surrounds it, giving up to it and taking from it ions, and this in its turn interacting with the surrounding medium, the lymph. The biophoric molecule weaves into itself, thus, some flavor of its surroundings, and can transmit whatever it has. It will be evident that there are some kinds of acquirement that can be transmitted, and some that cannot. The so-called "maternal impression," by which a pregnant woman seeing or imagining something which mentally impresses her, is supposed to transmit it to the offspring she is carrying, is a myth. "Use acquirements" are not transmitted; by this we mean that the blacksmith's arm is not reproduced in an unusually large biceps in his son. We have not as yet definite evidence that acquired immunity can be transmitted, although the offspring can obtain immunity during intra-uterine growth; to prove that immunity can be transmitted, it would be necessary to have only the male parent immunized, and to find the progeny so immunized. It might almost be predicted that immunity would be transmitted according to the Mendelian law, some of the progeny being immune, others not. Mutilations, loss of limbs, etc., are not transmitted. On the contrary, there is a series of retrogressive changes in the tissues, the result of toxic influence, which does seem to be able to affect the progeny. For example, it seems as if the drunkard begets children who are the worse for his habit; we need scarcely point out how difficult it is to prove this statistically, because there are so many factors to consider, such as these: the mother, being sound, may dominate the offspring, and the child be normal; if the child be abnormal, can we say that the father's alcoholism was the prime cause? May it not be that the father's alcoholism and the child's weakness are alike expressions of an hereditary taint in previous generations of the father's family? Or, again, may not the child's incapacity be due to the misery and want that so often go with alcoholism in the homes of the poor? Nevertheless it has been proved experimentally by treating the male guinea-pig with alcohol that his progeny is defective; where not stillborn it is liable to succumb easily in early life, or, surviving, is stunted and stupid. What is more, Stockard has shown that the offspring of this second generation of guinea-pigs are similarly stunted and stupid. It is not easier in tuberculosis and syphilis; but in all