

continually occur, in other words, as resemblance is often *incomplete*, the formula has to be altered to "Like *tends* to beget like". (2) Besides the general resemblance, which expresses the relative constancy of the species, a particular similarity is often demonstrable. The offspring reproduces not only the general features, but often minute characteristics of its parents, or of one of them, and this applies to abnormal as well as to normal characters. (3) In many instances the offspring exhibits, not only parental, but also grandparental characteristics; the inheritance of an organism may be compared to a mosaic built up from many ancestors. As Galton has shown, each parent contributes on an average to the heritage of the offspring one-fourth, each grandparent one-sixteenth, and so on. (4) The fact in regard to the explanation of which most debate at present obtains, is that characters individually acquired by the parent as the results of environmental or of functional influence, may *reappear* in the offspring. (5) Throughout successive generations there is, Galton maintains, a tendency to sustain the specific type or average, by the continued approximation of the progeny of exceptional forms towards the mean of the species.

There are at present three main problems of heredity, which must be carefully distinguished, as Problems of Heredity. has not always been done.

1. What accounts for the unique character of the germ-cells?
2. Granted the unique character of the germ, what are the conditions of its reconstructing a form like the parent?
3. What are the facts in regard to the reappearance of individual peculiarities or modifications, acquired by the parent as the result of changes in function or environment? Are they transmissible?

(a) *Early Hypotheses*.—We need not, however, discuss the possession of the germs by spirits, nor yet the postulates of *vires formativæ*, *nisus formativus*, principle of heredity, *Vererbungskraft*, or *Bildungstrieb*, but begin