than Mr. Galton, argues against the idea that the cells which make up the somatic or personal structure of the individual exercise any influence on the reproductive cells. From his point of view, the structural or other properties which characterize a family, a race, or a species are derived solely from the reproductive cells through continuity of their germ-plasm, and are not liable to modification by the action upon them of the organs or tissues of the body of the individual organism in which they are situated. To return for one moment to my graphic illustration in elucidation of this part of the theory. The cells which make up the personal structure of A or B would exercise no effect upon the character of the reproductive cells *a* or *ab* contained within them. These latter would not be modified or changed in their properties by the action of the individual organism A or B. The individual B would be in hereditary descent, not from A + *a*, but only from *a*, with which its germ-plasma *ab* would be continuous, and through which the properties of the family, race, or species would be transmitted to C, and so on to successive generations.

The central idea of Heredity is permanency: that like begets like, or, as Mr. Galton more fitly puts it, that "like *tends* to produce like." But though the offspring conform with their parents in all their main characteristics, yet, as everyone knows, the child is not absolutely like its parents, but possesses its own character, its own individuality. It is easy for anyone to recognize that differences exist among men when he compares one individual with another; but it is equally easy for those who make a special study of animals to recognize individual differences in them also. Thus, a pigeon or canary fancier distinguishes without fail the various birds in his flock, and a shepherd knows every sheep under his charge. But the anatomist tells us that these differences are more than superficial—that they also pervade the internal structure of the body. In a paper which I read to the meeting of this Association in Birmingham so long ago as 1865, after relating a series of instances of variation in structure observed in the dissection of a number of human bodies, I summarized my conclusion as follows: "Hence, in the development of each individual, a morphological specialization occurs both in internal structure and external form, by which distinctive characters are conferred, so that each man's structural individuality is an expression of the sum of the individual variations of all the constituent parts of his frame."

As in that paper I was discussing the subject only in its morphological relations, I limited myself to that aspect of the question, but I might with equal propriety have also extended my conclusion to the other aspects of man's nature.

Intimately associated, therefore, with the conception of Heredity—that is, the transmission of characters common to both parent and offspring—is that of Variability; that is, the appearance in an organism of certain characters which are unlike those possessed by its parents. Heredity, therefore, may be defined as the "Perpetuation of the Like;" Variability, as the "Production of the Unlike."

And now we may ask, Is it possible to offer any feasible explanation of the mode in which variations in organic structure take their rise in the course of