whole, formed by the joint agencies of a host of what appear to us to be unconscious or barely conscious elements. . . . The doctrine of Pangenesis gives excellent materials for mathematical formulas, the constants of which might be supplied through averages of facts."[1] Mr Galton does "not see any serious difficulty in the way of mathematicians in framing a compact formula, based on the theory of Pangenesis, to express the composition of organic beings in terms of their inherited and individual peculiarities, and to give us, after certain constants had been determined, the means of foretelling the average distribution of characteristics among a large multidude of offspring whose parentage was known.[2] . . . In short, the theory of Pangenesis brings all the influences that bear on heredity into a form that is appropriate for the grasp of mathematical analysis."

40. Problem of Heredity.

Evidently in the mind of Mr Galton the problem of heredity divides itself into two distinct problems; and he has himself laboured at the solution of both. We may call the one the "historical" or the "mechanical" problem, the other the "statistical" problem, following the distinction which Maxwell drew when dealing with the kinetics of gases. The historical problem would involve a more detailed account of the nature of those organic units which the theory of Pangenesis, in common with other similar theories, like those of Buffon and Nägeli, assumes, and of the mechanism by which they unite and are transmitted. If this is impossible, or at all events highly hypothetical, the actual following up—by observation and experiment—of the phenomena of

[1] 'Hereditary Genius' (1892), p. 356.

[2] Ibid. - p. 358.