Assortative mating, inmarriage, selection, and mutation.

In principle, positive assortative mating has a similar effect to inmarriage, i.e. it sets up an increase of homozygosis at the expense of heterozygosis. Other things being equal, the effect is in both processes stronger on rare characters than on common ones. It must, however, be remembered that assortative mating can hardly be thought to play any very great part for very rare characters, since the bearers will not then have any appreciable prospects of meeting one another. It is scarcely likely, therefore, that assortative mating should play any great part in human populations, and the deviation from panmixia which it, together with inmarriage, occasions can doubtless be more or less disregarded in most cases. Nor is it likely, then, that these processes would particularly influence the heterozygous frequency in the state of balance obtaining in a given situation between mutations and selection. (Nevertheless, owing to the development of communications, moving into towns, etc., there is reason to suppose that the balance has been upset, and that assortative mating plays a rather greater part nowadays in civilized communities than earlier on.) At present, however, it is not possible to reach definitive numerical gauges of the importance of these different processes when they move along at the same time, as we have no experience to back up the calculations. This problem will be discussed more thoroughly in a following chapter.

The importance of the isolate for the composition of populations.

When drawing up formulae in the previous pages, we have started from a population with panmixia, but we have not discussed the conception of population in more detail. Strictly speaking, a population is in this connexion the number of people among whom panmixia prevails. In practice, we can of course establish with certainty that panmixia