

—how it dealt with final causes, with the apparent existence of a purpose, an end in the processes of nature, notably of the living organism.

It must here be remembered that the question how living things come to exhibit traces of design and purpose has really nothing to do with the nature and processes of life: it is not necessarily a biological question. Every machine shows the same marks of design, but is not therefore alive. The influence of Darwin's principle of natural selection, of overcrowding and consequent struggle for existence and survival of the fittest specimens, has therefore not been in the direction of explaining any of the vital processes which are at work in the individual organism. It is at best merely a statistical relation, a peculiar phenomenon occurring only in a large or congested group of living and self-multiplying beings: it presupposes the facts of reproduction, heredity, and variation; it does not explain them. Hence I dealt with Darwin's ideas in the last chapter, and did not introduce them under the present heading of Biological Thought. As we shall see later on, Darwin did recognise the necessity of attempting also a biological explanation.

The possibility of explaining the marks of design as merely apparent depends on the conception of the genetic process acting on a large, a gigantic scale: individual things put forth ever new developments by which they eventually overtop their neighbours, ultimately advancing to such a degree of excellence and individual perfection that to an outside beholder the few surviving specimens give the impression of having been origin-