THE EVOLUTION OF THE WORLD

of natural development was barred by the dominant theory of preformation, the dogma which held that the characteristic form and structure of each animal and plant were already sketched in miniature in the germ (cf. p. 54).

The science which we now call the science of evolution (in the broadest sense) is, both in its general outline and in its separate parts, a child of the nineteenth century; it is one of its most momentous and most brilliant achievements. Almost unknown in the preceding century, this theory has now become the sure foundation of our whole world-system. I have treated it exhaustively in my General Morphology (1866), more popularly in my Natural History of Creation (1868), and in its special application to man in my Anthropogeny (1874). Here I shall restrict myself to a brief survey of the chief advances which the science has made in the course of the century. It falls into four sections, according to the nature of its object; that is, it deals with the natural origin of (I) the cosmos, (2) the earth, (3) terrestrial forms of life, and (4) man.

I.-MONISTIC COSMOGONY

The first attempt to explain the constitution and the mechanical origin of the world in a simple manner by "Newtonian laws" — that is, by mathematical and physical laws—was made by Immanuel Kant in the famous work of his youth (1755), General History of the Earth and Theory of the Heavens. Unfortunately, this distinguished and daring work remained almost unknown for ninety years; it was only disinterred in 1845 by Alexander Humboldt in the first volume of his Cosmos. In the mean time the great French math-