

an *inorgunic* nature, which must be explained by causes acting *mechanically* (causæ efficientes), and an *organic* nature, which must be explained by *causes acting for a definite purpose* (causæ finales). (Compare p. 35.)

This dualism meets us in a striking manner when considering the conceptions of nature formed by Kant, one of the greatest German philosophers, and his ideas of the coming into being of organisms. A closer examination of these ideas is forced upon us here, because in Immanuel Kant we honour one of the few philosophers who combine a solid scientific culture with an extraordinary clearness and profundity of speculation. The Königsberg philosopher gained the highest celebrity, not only among speculative philosophers as the founder of critical philosophy, but acquired a brilliant name also among naturalists by his mechanical cosmogony. As early as the year 1755, in his "General History of Nature, and Theory of the Heavens,"²² he made the bold attempt "to discuss the constitution and the mechanical origin of the whole universe, according to Newton's principles," and to explain them mechanically by the natural course of development, to the exclusion of all miracles. This cosmogony of Kant, or "cosmological gas theory," which we shall briefly discuss in a future chapter, was at a later day fully established by the French mathematician Laplace and the English astronomer Herschel, and enjoys at the present day almost universal recognition. On account of this important work alone, in which exact knowledge is coupled with most profound speculation, Kant deserves the honourable name of a natural philosopher in the best and purest sense of the word.

Now, in various works of Immanuel Kant, especially in