

CHAPTER IV.

THEORY OF DEVELOPMENT ACCORDING TO GOETHE
AND OKEN.

Scientific Insufficiency of all Conceptions of a Creation of Individual Species.
 —Necessity of the Counter-Theories of Development.—Historical Survey of the Most Important Theories of Development.—Greek Philosophy.—The Meaning of Natural Philosophy.—Goethe.—His Merits as a Naturalist.—His Metamorphosis of Plants.—His Vertebral Theory of the Skull.—His Discovery of the Mid Jawbone in Man.—Goethe's Interest in the Dispute between Cuvier and Geoffroy St. Hilaire.—Goethe's Discovery of the Two Organic Formative Principles, of the Conservative Principle of Specification (by Inheritance), and of the Progressive Principle of Transformation (by Adaptation).—Goethe's Views of the Common Descent of all Vertebrate Animals, including Man.—Theory of Development according to Gottfried Reinhold Treviranus.—His Monistic Conception of Nature.—Oken.—His Natural Philosophy.—Oken's Theory of Protoplasm.—Oken's Theory of Infusoria (Cell Theory).

ALL the different ideas which we may form of a separate and independent origin of the individual organic species by creation lead us, when logically carried out, to a so-called *anthropomorphism*, that is, to imagining the Creator as a man-like being, as was shown in our last chapter. The Creator becomes an organism who designs a plan, reflects upon and varies this plan, and finally forms creatures according to this plan, as a human architect