

what would otherwise be disorder and confusion. On the other side, the genetic view deals with the transition from one form to another in the course of time; takes more interest in movement and in the process and function; and seeks for their probable laws and regularities. Without wishing to limit these remarks to merely organic or living things, the difference between the morphological and genetic views can be brought home to the mind by referring to the different objects of anatomy and physiology.¹ This twofold and very general aim—the desire to know what is, and how it has come to be—has existed at all times, though frequently obscured by artificial and temporary restrictions. From this point of view I propose to survey the mental attitude of the century towards the real things and events of nature, as distinguished from the artificial or mathematical forms and processes of our studies and our laboratories, our calculating and measuring rooms. The

¹ Genetic theories have everywhere been prepared and ushered in by morphological studies. So in Goethe's time; so later on, after Darwin had given a definite law of descent, and Herbert Spencer had fixed the vocabulary and ideas of evolution, this relation is manifested by two great works, the 'Generelle Morphologie der Organischen Wesen,' by Ernst Haeckel in Germany (1866), and Francis M. Balfour's 'Elements of Embryology' (1874) in England. It is characteristic that Prof. Haeckel, in the further development of his literary activity, dropped the term morphology, and published the desired new editions of his great work under two different titles, 'Natürliche Schöpfungsgeschichte' (1868,

2 vols.), and 'Systematische Phylogenie' (1896, 3 vols.) The division of the great modern biological doctrine into morphology and genetics is in conformity with Mr Herbert Spencer's treatment in the 'Principles of Biology,' vol. ii., published in 1865, and with the two divisions of Haeckel's 'Generelle Morphologie,' which treated respectively of the "science of developed forms" and the "science of developing forms"—i.e., of structure and process. I have chosen such expressions in the text as will permit of a comprehension of inanimate as well as of animated nature. In 1875 there were founded simultaneously in Germany two periodicals, representing respectively the morphological and genetic sides of animal biology.