

upon this order as systematic only, and ideal;¹ he thinks merely of arrangement or "taxonomy." We may say that he deals with phylotaxy (called at that time taxonomy), not with phylogenesis. He conceives that ontogenesis, the historical development of the individual thing, throws light on the "mutual relations of organised bodies";² he wishes to make ontogenesis helpful in taxonomy or in phylotaxy. This term did not then exist, but it is useful in order to enable us to understand the change which came over natural science when the attempts at phylotaxy were succeeded by the schemes of phylogenesis, when reasons were established for taking in real earnest the idea then fancifully³ put forward that the natural order of living beings represented the order in which they had developed out of each other in time. These reasons did not at that time exist.

A suggestion in this direction had indeed been thrown out, and an elaborate theory had been published about

18.
Phylotaxy
and phylo-
genesis.

¹ In his later writings von Baer notes especially the difference between a purely ideal and a genetic or genealogical relationship. See 'Reden, &c.,' vol. ii. p. 386 (2nd ed.)

² 'Entwicklungsgeschichte' (1828), p. 231; transl., p. 221.

³ In a later publication of von Baer's (see 'Reden, &c.,' 2 Theil, No. V., "Ueber Darwin's Lehre") the aged author tries to define more exactly the part which his early writings played in the gradual establishment of a genetic conception of nature. If Haller arrived ultimately at the dictum "es gibt kein Werden," we may say that von Baer as emphatically asserted the opposite, that "es gibt kein Sein." In Baer we have progressed from the study of the "esse" (fixed forms) to

that of the "fieri" (processes of change and development). See the expositions in the introduction to the article on Darwin. He there also mentions Meckel and Oken as the two principal exponents of the extreme view then put forward and opposed by himself, that the human being in its development passes through the different higher forms of the animal creation, and he maintains that Johannes Müller, who had in the first edition of his 'Physiology' accepted this view, struck it out in the second. He also refers to a passage in a Memoir of 1859, published just before the appearance of the 'Origin of Species,' in which he maintains his belief "that formerly organic forms were less rigid."