

of his contemporaries which Darwin did, and for which he indeed largely prepared the way. Instead of opposing the genetic change and development of the forms of natural objects to their apparent fixity, he rather reconciled both views with each other by maintaining¹ "that in order to obtain a just insight into the mutual affinities of animals it is before all things necessary to distinguish the different *types of organisation* from the different *grades of development*." He considered that² "the idea of animal organisation does not vary at equal intervals, but is realised in certain principal forms which again break up into variations of a lower grade"; and he³ "arrived at the four principal divisions of the animal kingdom established by Cuvier." In 1828, in his work on the 'Development of Animals,' he discusses⁴ "the prevalent notion that the embryo of higher animals passes through the permanent forms of the lower animals"—*i.e.*, "the doctrine of the agreement of individual metamorphosis with the ideal metamorphosis of the whole animal kingdom." Von Baer had himself added greatly⁵ to

¹ See Huxley's translation, *loc. cit.*, p. 178.

² *Ibid.*, p. 182.

³ *Ibid.*, p. 183.

⁴ See K. E. von Baer's 'Ueber Entwicklungsgeschichte der Thiere Beobachtung und Reflexion,' Königsberg, 1828. The above extracts are taken from the fifth scholion: "Ueber das Verhältniss der Formen, die das Individuum in den verschiedenen Stufen seiner Entwicklung annimmt." See also Huxley's Translation, *loc. cit.*, pp. 186, 189.

⁵ Prof. J. A. Thomson summarises as follows von Baer's own

results: "It was von Baer who first clearly discriminated the great events in a life-history; (a) the primary process of egg-cleavage, and the establishment of the germinal layers; (b) the gradual differentiation of the tissues (histogenesis); and (c) the blocking out of the organs (organogenesis), and the shape-taking of the entire organism (morphogenesis) ('Science of Life,' p. 123). The classical work of von Baer is dedicated to his friend Pander, from whom and Döllinger he acknowledges having received the first impulses towards