

sense by Meckel, von Baer, and Serres. It has sometimes been termed von Baer's law, though von Baer very carefully guarded himself against many popular versions of the analogy, applying it only within the limits of the four great groups or plans of organisation into which he divided the animal kingdom.¹ In his

zustande der höheren Thiere und dem permanenten der niederen stattfindenden Parallele' (1811): "There is no good physiologist who has not been struck by the observation that the original form of all organisms is one and the same, and that out of this one form all, the lowest as well as the highest, are developed in such a manner that the latter pass through the permanent forms of the former as transitory stages. Aristotle, Haller, Harvey, Kiemeyer, Autenrieth, and many others, have either made this observation incidentally, or, especially the latter, have drawn particular attention to it, and drawn therefrom results of permanent importance for physiology." Louis Agassiz, in his celebrated "Essay on Classification" (1859), though rejecting the doctrine of descent, "insisted, nevertheless, on the correspondence between stages in embryonic development and the grades of differentiation expressed in the classification of living and extinct animals" (Thomson, 'The Science of Life,' p. 134).

¹ "A careful examination of von Baer's 'laws' shows that he did not accept the recapitulation without many saving clauses. He believed in it much less than many a modern embryologist, such as F. M. Balfour or A. Milnes Marshall" (Thomson, p. 133). Before the publication of Haeckel's 'Generelle Morphologie' the naturalist who seems to have most clearly expressed the recapitulation theory

was Fritz Müller, who in 1864 published his famous tract 'Für Darwin,' which appeared in 1868 in an English translation by Dallas, with the title 'Facts and Arguments for Darwin.' The work of Fritz Müller, who for many years lived in the Brazils, isolated and secluded, and devoted to scientific observation, was welcomed by Darwin as one of the first and greatest supports to his doctrine: the author was singled out by him as the "prince of observers," and frequently referred to in the later editions of the 'Origin of Species.' Delage considers him to have first expressed the fundamental biogenetic law ('L'Hérédité,' pp. 159, 469), and this is in agreement with Haeckel's own declaration in the 13th chapter of the 'History of Creation.' It is, however, well to mention that the recapitulation theory has found little favour with botanists; that Haeckel himself admits that the parallelism between ontogenesis and phylogenesis is general and not exact; that there is a tendency to abbreviation; that recent adaptations (called by him "kainogenetic") may mask more ancient ("palingenetic") features, &c. See J. A. Thomson, 'The Science of Life,' p. 135. Ziegler, in his recent excellent review of the 'Present Position of the Doctrine of Descent' (Jena, 1902, p. 12), admits that the theory of parallelism has "perhaps not realised all the expectations" which were cherished thirty years ago.