among Mollusks, under the name of Cirripeds. It was not until Thompson[1] had shown, what was soon confirmed by Burmeister and Martin St. Ange, that the young Barnacle has a structure and form identical with that of some of the most common Entomostraca, that their true position in the system of animals could be determined; when they had to be removed to the class of Crustacea, among Articulata. The same was the case with the Lernæans, which Cuvier arranged with the Intestinal Worms, and which Nordmann has shown upon embryological evidence to belong also to the class of Crustacea.[2] Lamarck associated the Crinoids with Polypi, and though they were removed to the class of Echinoderms by Cuvier, before the metamorphoses of the Comatula were known,[3] the discovery of their pedunculated young furnished a direct proof that this was their true position.

Embryology affords further a test for homologies in contradistinction of analogies. It shows that true homologies are limited respectively within the natural boundaries of the great branches of the animal kingdom.

The distinction between homologies and analogies, upon which the English naturalists have first insisted,[4] has removed much doubt respecting the real affinities of animals which could hardly have been so distinctly appreciated before. It has taught us to distinguish between real affinity, based upon structural conformity, and similarity, based upon mere external resemblance in form and habits. But even after this distinction had been fairly established, it remained to determine within what limits homologies may be traced. The works of Oken, Spix, Geoffroy, and Carus,[5] show to what extravagant comparisons a preconceived idea of unity may lead. It was not until Baer had shown that the development of the four great branches of the animal kingdom is essentially different,[6] that it could even be suspected that organs performing identical functions may be different in their essential relations to one another, and not until Rathke[7] had demonstrated that the yolk is in open communication with the main cavity of the Articulata, on the dorsal side of the animal, and not on the ventral side, as in Vertebrata, that a solid basis was obtained for the natural limitation of true homologies. It now appears more and more distinctly, with every step of the progress Embryology is making, that the structure of animals is only homologous within the limits of the four great branches

[1] THOMPSON's Zool. Researches, etc.; BURMEISTER's Beiträge, etc.; MARTIN ST. ANGE, Mém. sur l'organisation, etc., quoted above, page 79, note 1.

[2] NORDMANN's Micrographische Beyträge, q. a.

[3] THOMPSON and FORBES, q. a., page 79.

[4] SWAINSON's Geography and Classification, etc. See above, Sect. V., p. 20.

[5] See, above, Sect. IV., notes 1 and 2.

[6] BAER's Entwickelungsgeschichte, vol. 1, p. 160 and 224. The extent of Baer's information and the comprehensiveness of his views, nowhere appear so strikingly as in this part of his work.

[7] RATHKE's Unters. über Bild., etc., see, above, p. 79, note 2.