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geological formations; first, it recalls the Cistoids of the palæozoic rocks, which are represented in its simple sphæroidal head, next the few-plated Platycrinoids of the Carboniferous period, next the Pentacrinoids of the Lias and Oolithe, with their whorls of cirrhi, and finally, when freed from its stem, it stands as the highest Crinoid, as the prominent type of the family, in the present period. The investigations of Müller upon the larves of all the families of living Asterioids and Echinoids enable us to extend these comparisons to the higher Echinoderms also. The first point which strikes the observers in the facts ascertained by Müller, is the extraordinary similarity of so many larve, of such different orders and different families as the Ophiuroids and Asterioids, the Echinoids proper and the Spatangoids, and even the Holothurioids, all of which end, of course, in reproducing their typical peculiarities. It is next very remarkable, that the more advanced larval state of Echinoids and Spatangoids should continue to show such great similarity, that a young Amphidetus hardly differs from a young Echinus.¹ Finally, not to extend these remarks too far, I would only add, that these young Echinoids (Spatangus, as well as Echinus proper) have rather a general resemblance to Cidaris, on account of their large spines, than to Echinus proper. Now, these facts agree exactly with what is known of the successive appearance of Echinoids in past ages;² their earliest representatives belong to the genera Diadema and Cidaris, next come true Echinoids, later only Spatangoids. When the embryology of the Clypenstroids is known, it will, no doubt, afford other links to connect a larger number of the members of this series.

What is known of the embryology of Acephala, Gasteropoda, and Cephalopoda, affords but a few data for such comparisons. It is, nevertheless, worthy of remark, that while the young *Lamellibranchiata* are still in their embryonic stage of growth, they resemble, externally at least, Brachiopods³ more than their own parents, and the young shells of all Gasteropods⁴ known in their embryonic stage of growth, being all holostomate, recall the oldest types of that class. Unfortunately, nothing is yet known of the embryology of the Chambered Cephalopoda, which are the only ones found in the older geological formations, and the changes which the shield of the Dibranchiata undergoes have not yet been observed, so that no comparisons can be established between them and the Belemnites and other representatives of this order in the middle and more recent geological ages.

Respecting Worms, our knowledge of the fossils is too fragmentary to lead to any conclusion, even should our information of the embryology of these animals

¹ Compare J. Müller's 1st paper, pl. III., with pls. IV.-VII., and with pls. VI. and VII., 4th paper.

AGASSIZ, (L.,) Twelve Lectures, q. a., etc. p. 25.

* See the works, q. a., p. 73, note 1.

See the works, q. a., p. 73, note 2, especially those relating to Nudibranchiata.