

develops which is utterly different from the fully developed Star-fish, but very like the ciliated larvæ of certain segmented Worms (Star-worms and Ring-worms). This peculiar animal-form is generally called the "larva," but more correctly the "nurse" of these Star-fish. It is very small and transparent, swims about by means of a fringe of cilia, and is always composed of two equal symmetrical halves or sides. The fully grown Echinoderm, however—which is frequently more than a hundred times larger, and quite opaque—creeps at the bottom of the sea, and is always composed of at least five co-ordinate pieces, or antimeræ, in the form of radii. Plate VIII. shows the development of the "nurses" of the four Echinoderms represented on Plate IX.

The fully developed Echinoderm arises by a very remarkable process of budding in the interior of the "nurse," of which it retains little more than the stomach. The nurse, erroneously called the "larva," of the Echinoderm, must accordingly be regarded as a solitary worm, which by internal budding produces a second generation, in the form of a stock of star-shaped and connected worms. The whole of this process is a genuine alternation of generations, or metagenesis, not a "metamorphosis," as is generally though erroneously stated. A similar alternation of generations also occurs in many other worms, especially in some star worms (Sipunculidæ), and cord worms (Nemertinae). Now if, bearing in mind the fundamental law of biogeny, we refer the ontogeny of Echinoderma to their phylogeny, then the whole historical development of the Star-fishes suddenly becomes clear and intelligible to us, whereas without this hypothesis it remains an insoluble mystery. (Compare Gen. Morph. ii. pp. 95–99.)