Holothuriæ. The cells with granular contents are always ovoid or spherical; they exist in the anterior intestine and in the anterior part of the middle intestine, and then entirely disappear. The cells with contents resembling those of the mucous cells of the peritoneal cavity are much more general; but they vary in form, distribution, and number in the different regions of the digestive tube. Thus they are ovoid and large at the commencement of the middle intestine, but soon become club-shaped and so numerous in the greater part of that region, that the epithelial cells seem to have entirely disappeared. In the terminal part of the middle intestine and in the posterior intestine they form spherical cells, and then resemble the mucus-cells of Vertebrata.—*Comptes Rendus*, September 25, 1882, p. 565.

On Animal Polymorphism. By E. B. WILSON.

This paper gave a brief discussion of the nature of polymorphism in animal colonies, with especial reference to the so-called polymorphism of the Pennatulacea. In studying the development of the colony in *Renilla* it was found that the peculiar and characteristic mode of budding shown by the sexual polyps is characteristic also of the rudimentary polyps or "zooids." There is a manifest relation between this mode of budding in the sexual polyps and the environment of the organism; and in view of the structure of other Pennatulacea, we seem to be justified in the conclusion, in accordance with the prevailing views of symmetry, that the mode of budding in the sexual polyps is directly dependent on the relation of the organism to its environment. If this conclusion is well founded, then it follows with considerable probability that the rudimentary zooids cannot have acquired their present mode of budding in their present position; for they agree with the sexual polyps in the law of budding, but differ widely from them in their relation to the environment. And, furthermore, it is impossible to conceive how the zooids can ever have occupied such a position as to agree with the sexual polyps in this relation.

From these considerations it seems probable that the zooids are not degenerated polyps, but are new formations which have inherited certain peculiarities from the sexual polyps. It is immaterial whether we call them organs which simulate individuals or individuals in a state of arrested development; in either case the various members of the colony are not of morphological equivalence; that is, they are not the *direct* descendants of like individuals. This suggests that in such organisms as the Siphonophora a similar condition may exist, some of the members being the direct descendants phylogenetically of fully developed buds, while others have arisen *de novo*, and are to be regarded morphologically as organs or as imperfectly developed buds. This view would harmonize the conflicting theories of Leuckart, Hæckel, Gegenbaur, and others on the one side, and of Huxley and Metschnikoff on the other.—*Johns Hopkins University Circulars*, May 1882, p. 203.

Wilson, Edmund B. 1882. "On animal polymorphism." *The Annals and magazine of natural history; zoology, botany, and geology* 10, 416–416.
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