21A3 The Polyp Reconstitution in Ecto- and/or Endoderm Isolated from Polyps of Aurelia aurita.

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Polyp is composed of several different cell types, each of which shows its own distribution along the apico-basal axis. But, the small ectodermal piece has an ability to reconstitute a complete polyp, regardless of the region from which it is taken. In the reconstitution process, therefore, might involve cellular rearrangement or transdifferentiation in the test piece. This report deals with what mechanism actually operate in the process.

Small pieces (about 0.7mm in hight, 0.9mm in width) were removed from the middle region of the polyp (2-2.5mm in hight, 1-1.2mm in width). Ectoderm and endoderm could be mechanically separated. Ectoderm could reconstitute a complete polyp within 20 days in almost cases, but endoderm could not do it. Immediately after cut, the ectoderm begins to fuse the upper and lower edges to make a tube. A tube elongates with decreasing its diameter and a fused line shows a spiral thread. The cells of respective edge move to the opposite side of a tube together with shortening the length. The head structure appears at the side where the cells, which were originally composed of upper part of the test piece, move to gather. The opposite side becomes foot. Dynamics of such cell "sorting out" phenomenon is discussed. Further, histological results on the reconstitution process are given.