

FURTHER STUDIES ON ANOMALOUS DICOTYLEDONOUS PLANTS.

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(Abstract.)

The studies referred to deal with the development of the embryo with special reference to the origin of the cotyledons in *Actea alba*, *Stylophorum diphyllum* and *Sanguinaria canadensis*. In the origin of the cotyledons all three species show, in varying degrees, the distinguishing characteristics of typical anomalous dicots. In each the embryo becomes pear-shaped before any indication of the cotyledonar primordium is apparent. The primordium of the cotyledons now appears as an almost complete, circular, ridge-like outgrowth from the margin of the broadly truncated end of the embryo. With the further growth of this ridge a bifurcation soon appears at a point exactly opposite the primary cleft of the primordium, so that the two young cotyledons, which may or may not be of the same size, seem to represent two separate and opposite lobes of the distal end of the embryo with one of the clefts a little deeper than the other. In some cases (*Stylophorum*) the two cotyledons seem to arise as separate and independent outgrowths, but a little later their common base grows faster on one side than on the other, and in this manner the two clefts or bifurcations become unequal in depth.

It is important to note, however, that in embryos of different individuals of the same species the anomalous character is much more strongly marked than in others.

ON THE GERMINATION OF CERTAIN NATIVE WEEDS.

BY STANLEY COULTER.

(By title.)

