

REPRODUCTION BY LAYERING IN THE BALSAM FIR
AND OTHER CONIFERS.

BY WILLIAM S. COOPER,

University of Chicago.

(Abstract.)

During ecological studies on Isle Royale, Lake Superior, many balsams were found which were producing young trees by the layering of the lower branches. The process was found to be usually as follows. A lower branch, becoming more or less soil covered, produces roots from its under side, and the tip then becomes erect and takes on radial symmetry. The erect portion derives practically all of its sustenance from its own root system, the portion connecting it with the parent not developing further. Connected groups of several were frequently seen, and the commonness of the habit is partially responsible for the great preponderance of balsam in the young growth. The young tree-like branch may sooner or later be detached from the parent, and when this takes place the former becomes an independent tree. One case was seen in which the tip of a lower branch had taken the erect position without the production of roots. The habit was also observed, though less commonly, in all the other coniferous species growing on Isle Royale.

There is here an excellent opportunity for investigation of the causes of orthotropism and plagiotropism, and their mutual relations.