



Locust Trees

THE ambitions of Jack's magic bean-stalk are nearly realized by some members of the bean family, for the locust trees, among the loftiest members of our hardwood forests, are close kindred of the lowly legume. A glance at either the pea-shaped flowers or the large, flat seed pods at once places the matter beyond argument.

The two commonest locust trees we have in this country are members of quite distinct but more or less closely related genera. The honey locust has inconspicuous little clusters of rather greenish flowers; its real distinction consists in the terrible armor of long, branching spines with which its trunk and larger branches are wreathed. Not even a cat can climb this tree. Once in a while one comes upon an "unarmed" honey locust, which some botanists regard as a definite sub-species or variety.

The tree known in different sections of the country as black locust, yellow locust and false acacia has larger flowers and smaller thorns. Its armament indeed consists of true thorns—small, single points that can be broken off sharp, like the thorns of a rose, instead of the great branching things of the honey locust, which are really modified twigs. The black locust is valuable for other things besides shade. It has a trick of "suckering up" from the roots, which makes it very useful in binding the sides of sliding embankments and ravines.

A third member of this group, the Kentucky coffee tree, is recognizable by its very large pods, with big, hard seeds, embedded in a stuff like mucilage, and also by the huge, wide-spreading, triply compound leaves at the ends of its thumb-thick twigs.

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OCEANOGRAPHY

Sea Creatures Depend on Seemingly Remote Influences

ALL THE CREATURES man takes from the sea to eat or use, from whales down to shrimps, depend for their life and growth on the behavior of the water, and that in turn depends on such seemingly remote influences as the shining of the sun, the ice of Antarctica, the flow of tropical rivers and the height and length of submerged mountain chains. At the Pasadena meeting of the American Association for the Advancement of Science, Dr. T. Wayland Vaughan, director of the Scripps Institution of Oceanography, outlined the problems confronting scientists in their endeavor to obtain a scientifically and economically useful panoramic view of oceanic life.

The distribution of most of the things needed by plants and animals in the sea depends largely on the circulation of the water, bringing new supplies of mineral nutrients and oxygen up from the uninhabited depths to replace the depleted supplies in the more densely populated surface layers and inshore zones. Circulation in the ocean is influenced by a number of factors, but its primary cause is the same as that of the air circulation that makes weather: the heat of the sun, warming some parts of the earth more than others.

If the ocean covered the whole earth to a uniform depth, Dr. Vaughan said, the surface circulation would be from the warmed equator toward the cold poles, with a return circuit of cold water along the bottom, rising to the surface again at the equator. But actual conditions on the real earth modify this behavior of the "ideal ocean" very greatly.

Currents Deflected

The rotation of the earth deflects the currents from a true north-and-south line. Continental masses, island chains and submarine ridges get in the way, hindering currents or blocking their most natural courses altogether. Prevailing winds hasten surface currents that flow in the same direction and hinder currents flowing against them. Rainfall, whether directly into the ocean or running off the land as rivers, dilutes the water and makes it lighter; evaporation increases the salt concentration and

makes it heavier, so that it tends to sink even if warm.

All these different factors working at the same time make the circulation of the world's ocean system a very complicated matter, of which scientists are at present getting only a preliminary notion.

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The new frozen foods which are appearing on the market will probably mean that plant breeders will set to work to develop new varieties especially adapted to freezing, the Department of Agriculture foresees.

When the great bones of fossil elephants were found some centuries ago, they were thought to be the bones of human giants who had lived on the earth.



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