ECOLOGY

NATURE RAMBLINGS

by Frank Thone

When Woods are Deserts

CLASSIC MYTH had the Greek sun-god Phoebus turn himself into a shower of gold, to visit one of the numerous lovely ladies of whom he was enamored, when she was locked up in an inaccessible tower. So today the sun is able to visit the hosts of delicate woodland flowers that live only through his favors, by showering himself through the interlaced bars of the as yet sparsely leaved tree branches.

It seems a trifle paradoxical, that the flowers of the early spring woods should be so much like the flowers one finds in the semi-arid lands of the Southwest and the Rocky Mountains, yet such is the case. Some of them are of the same genera: violets, trout-lillies, buttercups, anemones, spring beauties, and many others. And even where they are not fairly close relatives, there are astonishing resemblances in general habit of growth.

The solution to the paradox is to be found in the fact that before the leaves are on the trees, the ground under them is not properly speaking in the woods. It is at least halfway in the windy, sunny open, subject to much the same illumination and the same evaporation rates as the prairie alongside or the chaparral a thousand miles away. Only when the leafy canopy has closed itself, excluding the warming sun and materially cutting down the force of the drying breeze, does the forest become properly a forest to the trees that grow underneath. Then it is that the spring flora—geraniums, phloxes, bellworts, hepaticas, and all the rest—gives way to the much reduced number of flowers that will consent to blossom in the deep shade of the summer woods.

This characterization of the spring woods as really touched with the tang of the desert is no mere impression. The difference between the woods of May and the woods of July has been scientifically measured. Several years ago sets of instruments for measuring the evaporation rate of water were placed in a typical strip of midwestern woodland along the bluffs of the Illinois river, and kept in operation from the first of May until nearly the end of September. The evaporation rate in July was high, as might have ben expected. But a result that was not expected at all was that in the first week in May, when the leaves had not yet covered the oak trees, the evaporation rate was still higher!

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Gladiolus flowers in gardens are generally considered to be without scent, but some of the wild species of Africa are strongly fragrant.

The principle of the thermometer was discovered by Galileo 87 years after Columbus discovered America.

PHOTOGRAPHY

Slenderizing of Movie Stars Achieved in Projection

MOVIE STARS owe some of their sylph-like slenderness to the engineer. By placing the projection booth high above the screen, he can reduce even the dainty, slight figures of ingenues as much as five or six pounds, apparently, and becomes a rival of dieting. This service of the engineer as a beautifier was disclosed to the Society of Motion Picture Engineers in a report of Clifton M. Tuttle, of the Eastman Kodak Company's research laboratories.

Placing the projection booth out of line with the screen produces a distortion of the figures of which the audience may not be conscious.

If the projector points down toward the screen at an angle of 17 degrees, the height of figures on the screen in relation to their width is increased as much as five per cent., Mr. Tuttle said, and suggested that this artificial elongation or slenderizing of forms may have set the style for the boyish figure with no curves.

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planes were used in experiments 17 degrees below the equator in Peru.

The results of these airplane tests bring to light the fact that cosmic rays grow rapidly softer or less penetrating as altitude increases. This softening is so marked that more than 75 per cent. of the rays existing at altitudes of 25,000 feet have insufficient energy to penetrate four inches of lead. As Dr. Carl D. Anderson in Dr. Millikan's laboratory has measured the loss of energy of cosmic rays passing through lead, Dr. Millikan can conclude that more than three-fourths of the cosmic rays at 25,000 foot altitudes have energies of less than 350,000,000 volts. But particles of this voltage cannot penetrate more than half of the depth of the atmosphere, and Dr. Millikan concludes that the experiments furnish convincing proof that the cosmic rays found at low altitudes are certainly secondaries which are formed in the earth's atmosphere by collision with air atoms. Photographs taken by Dr. Anderson have caught the cosmic rays, which are nonionizing and can not be photographed themselves, in the act of smashing atomic hearts and letting loose pos- (*Turn page*)