GEOBOTANY

NATURE RAMBLINGS
by Frank Thone

Guardians of the Snow

CONIFER trees and snow always seem to belong together.

So strong is this traditional connection, that Southerners, setting up for Christmas trees little native pines or junipers that have never known snow, will surround them with sheets of cotton batting and decorate them with glittering bits of silver tinsel, and perhaps explain carefully to their children just what snow is. Conifers are by no means confined to the lands of snowy winters, but so ineradicable is the picture of snow-surrounded evergreens that when Rudyard Kipling wanted to pack the geographical grandiosity of the British Empire into a single phrase, he wrote of "dominion over palm and pine."

Although it is true that the coniferous trees can be found in lands that reach toward the sun (in our own South, they dispute dominion with at least one kind of palm!), nevertheless they do belong first to the North. Or perhaps it would be more proper to say that the North belongs to them. They circle the boreal end of the earth like a dark-green garland. They are the last trees that look upon the desolate tundras, that run to the Arctic sea. Willows and poplars and birches push toward the North, too; but they surrender and dwindle to bushes, while the spruces still stand up as trees.

Incidentally, Kipling limited the northern extent of his Empire unnecessarily (though probably quite unconsciously) when he made the pine the symbol of the North. Spruces run far to the north, beyond the last of the pines, just as the pines leave the spruces behind in their southerly extension. Their ranges overlap, but it is the spruce that in general stays within the circle of deep annual snow.

There is good reason for that, for the snow is more necessary to the spruce than it is to the pine. Some of the evergreens—and pine and juniper are outstanding among them—can stand a good deal of drought. Not all kinds of pine; but there are enough dryland pines to make good forests in lands where the slow seep of melting snow never figures as a source of ground water.

Not so the spruces, however, nor yet their cousins the firs. They are rather more particular than most pines, and seek the moister regions. Where they grow in competition with pines, the spruces and firs cling to the shady, damp sides of ravines. Lands that they dominate are usually found to be perennially moist. In part, these conifers attend to that themselves, for their dense foliage makes a superior shade for the snow that lies under their canopy, holding it against the ardor of the spring sun and permitting it to melt only slowly—and to the advantage of their roots.

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RADIO

How the Milky Way Sends Radio Signals To Earth

AN EXPLANATION of the cause of the mysterious radio signals coming from the region of space marked by the Milky Way was presented to the meeting of the American Physical Society by Dr. Robert Langer, California Institute of Technology.

The mystery radio signals, reported by Dr. Karl G. Jansky of the Bell Telephone Laboratories two years ago, puzzled their discoverer and other scientists alike.

Dr. Langer's suggestion is that the interstellar dust in space becomes charged electrically by the ultraviolet light from the stars. Each dust particle then becomes, in effect, a tiny radio transmitting set, and when disturbed in any way will send out a wave.

The surprising thing is that the dust particle, to send out a wave like those received by Dr. Jansky's apparatus, must be only a ten-thousandth of an inch across.

This is just the size of the particle which is known to exist in interstellar space. Morever, the amount and character of the radio energy received in the Bell Telephone research is just about what would be expected from known interstellar conditions.

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