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A Science Service Feature

? WHY THE WEATHER ? Mailed March 7, 1933

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ICE COLUMNS

One variety of ice that always arouses the curiosity of the layman, if he happens to notice it, consists of little columns or pillars an inch or a few inches in height, formed in compact clusters on the surface of bare soil. These columns grow up from the ground, sometimes carrying a thin layer of surface soil or a thin horizontal crust of ice, while in still other cases the upper ends of the columns are separate from one another. A picture of such columns was published in the Monthly Weather Review (Washington) for December, 1905, page 527, and two pictures of similar formations, one taken in Japan, will be found in the January, 1928, number of the Quarterly Journal of the Royal Meteorological Society (London), p.18.

The columns are usually vertical and parallel to one another, but in some cases they are spread apart so that they bear a certain resemblance to tufts of grass. A deposit of the latter kind was observed last January on a tennis court near Red Bank, N.J., by Robert L. Cadman, who sent a photograph of it to the Weather Bureau in Washington, eliciting the following explanation of the phenomenon from that Bureau:

"It often occurs on still cold nights over wet clay. There is first a little freezing of water near the surface, drawn there by capillary attraction. (Surface tension increases with decrease of temperature.) This ice expands upward into the free air; not down into the ground, which direction would mean against considerable resistance. Then more water, also brought up by capillary action, freezes and expands upward, and so on, until innumerable small ice columns are produced."

The process is similar to that which forms the curious ribbons or fringes of ice often found on cold winter mornings on the dead stems of the dittany, and occasionally on plants of other species.

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