

Sept. 6

? WHY THE WEATHER ?

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of Clark University.AIR DRAINAGE

On a quiet evening in early fall, one is often struck by the coolness and dampness of hollows. Perhaps you select a small, grassy valley for a picnic supper. At sunset, or even sometime before, a very noticeable chill may become felt first at the ground, when if you merely stand up, your head extends into a level of warmer air. Later, the cold air collects and the layer thickens. Of course a hollow passes out of direct sunlight into the shadow earlier than the land about it, but a more important reason for its early chilliness is the drainage of cool, heavy air from the shadowed slopes above. The cool air in forests is no longer heated as it emerges, but further cooled by contact with the ground of open spaces. The beginning of this air drainage movement is often very clear cut. One evening, for instance, it was observed that when the downward stream of cool air had reached the shore of a lake, but had not yet extended over the water, the temperature was 13 degrees Fahrenheit cooler on shore than a short distance out on the lake. A curious example of daytime air drainage was noticed on a bare slide on the slope of a mountain. One side of the slide was shaded, the other sunny. On the sunny portion the warm air was moving upward, the usual up slope, daytime breeze, but over the shaded area the noticeably cooler air was in motion downward, as in the evening.

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