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? WHY THE WEATHER ?

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FREE SUNSHINE

Sunshine is worth dollars to us at this time of year. If we could entrap all the sun's heat falling on our buildings and dwellings our artificial heat would be superfluous about a third of the time. On a sunny day in January the sun delivers at latitude 40 in the eastern United States over 250 gram calories per square centimeter of horizontal surface, Dr. H. H. Kimball has shown. This is enough heat to warm a layer of air 100 feet thick . 115 degrees Fahrenheit.

A factory of this height could have three or four complete changes of winter air warmed to a comfortable temperature by this amount of heat. Unfortunately, the insolation is absorbed on the outer surfaces and used to heat the passing wind as much as the building. Clean all-glass double roof and walls would be the best receivers. When there is clean snow on the ground the reflection of heat still further contributes to the heating of an isolated building. It adds half or two-thirds to the heat received directly from the sun or sky by the vertical walls.

Unfortunately, all days are not sunny. Nevertheless, even partly cloudy days allow on the average two-thirds to three-fourths of the sun's heat to reach the ground. Only on heavily clouded days does the proportion fall to one-fourth. The average for all days is about two-thirds that for bright ones.

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