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? WHY THE WEATHER ?

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SNOW AND COLD: SIAMESE TWINS

The coldest weather of the winter is likely to occur when a deep snow cover is present. A snow surface at night cools quickly to a low temperature, because it is a good radiator. Moreover, as snow is a poor conductor, its upper surface is not much heated by the relatively warm ground below the snow cover. When the snow surface becomes cold, it cools the air for some distance above it. A snow cover also prevents appreciable heating by day, because, unlike bare ground, it does not readily absorb the sun's heat. Indeed, it has been found that a new snow surface reflects 70 per cent. of the sunlight. Blowing over a snow cover, northerly winds are kept cold and also southerly winds are prevented from maintaining their high temperatures, on account of the large amount of heat required to melt or evaporate snow. Furthermore, the limit of 32 degrees Fahrenheit is the highest temperature snow can reach.

A comparison was made of air temperatures with depth of snow on the ground at Cincinnati during the winter of 1917-18. On three occasions the temperature reached 10 degrees below zero Fahrenheit or lower. On two of these the snow cover was 10 inches or more deep, on the other, 5 inches. Every time that zero Fahrenheit or lower was recorded, a snow cover was present. On the other hand, the warmer weather, with temperatures of 40 or 50 degrees occurred in the intervals when the ground was bare, or in one case, when a light snow cover was rapidly disappearing.

(Tomorrow: Wind Pressure and Railroad Trains)

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