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? WHY THE WEATHER ?

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POLAR VS. EQUATORIAL AIR STREAMS

Our winter weather is essentially the result of the constant conflict between polar and equatorial air streams. When the polar wind is over us cold, dry weather usually occurs except near its contacts with the equatorial wind. Where the polar wind is obstructing or running under the warmer air from an equatorial direction heavy clouds generally cover the sky, and snow or rain may fall. In the equatorial air stream, however, pleasant warm weather commonly prevails. Either current by itself tends to be fair, but where the two rub there it is stormy.

The highs and lows of our weather maps are particular expressions of the interactions between these major air streams. The low occurs between an equatorial stream on the east and a polar one on the west, for the winds being deflected to the right tend to separate and, therefore, to create low pressure between. This low pressure area, caused by the action of the more rapid winds at heights of a third of a mile or more, then controls the lower winds making them tend toward the low pressure trough or center. This convergence favors the crowding, ascent, cooling, and precipitation, for which the low is noted. The high, on the other hand, marks the region between a polar wind on the east and an equatorial one on the west. Deflected toward each other these tend to create a pile of air, from the base of which the surface wind flows slantingly outward. The general descent of air to replace this loss favors clear skies.

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(Tomorrow: Snow and Cold: Siamese Twins)

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