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? WHY THE WEATHER ?

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## CLOUD SPEED

Sometimes before or after a shower, people look up at the sky and exclaim at the speed with which the low ragged "scud" clouds are flying by. On the other hand, they will scarcely noticethe motion of high mare's tails, or cirrus clouds. It is easy to be deceived with regard to the relative speed of clouds. Just as an aeroplane appears nearly stationary when it is flying rapidly at a great altitude, so the distant cirri, which move the fastest of any clouds, making an average of about 80 miles per hour, often seem to be almost standing still. Until recently, cirrus clouds with velocities sometimes of 200 miles per hour were the fastest travellers in the air. Now they can be beaten by airplanes. Low cumulus clouds, on the other hand, never move so fast, about 35 miles an hour is their limit, and 15 miles an average rate. These differences in rate of cloud travel merely reflect the difference in wind velocities at different altitudes.

The higher wind velocities in the free air than near the ground follow naturally from several contrasts. Of course, friction is much less at considerable heights than near the ground. Pressure gradients, or differences of pressure in certain distances, are also larger in the main at heights of a few miles than near the ground. And the density of the air at great heights is so small that rapid flows take place even with moderate pressure gradients. For this last reason alone, the highest clouds , at about 7 miles altitude, should go four times as fast as the lowest ones. ( Pick up one- column cut 6-1-25)

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(Tomorrow: Vertical Weather Maps)

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