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? WHY THE WEATHER ?

Dr. Charles F. Brooks,
of Clark University
tells:

HOW THE CUMULUS CLOUD STAYS UP

People have often puzzled over the question of how clouds remain aloft. In "Modern Painters" in the section on Cloud Beauty, Ruskin discussed this question, and could explain the floating of clouds only by assuming their particles to be "hollow spherical globules...in which the enclosed vacuity just balanced the enclosing water". We now know that clouds are not composed of any such curious globules, but are aggregates of solid or liquid particles and really do not "float" at all but are constantly tending to fall. Gravity may be overbalanced, however, by other forces. For example, a cumulus cloud is supported by the strength of the ascending air current of which it marks the top. The stronger the local convection, the stronger are these up-and-down vertical currents. An aviator flying in such conditions finds the air "bumpy"; his plane may be suddenly borne aloft with an ascending column of air, or, entering a return down current, he may drop as if into a hole. If a convectational current ceases suddenly, a cumulus cloud at its tip may start to fall, but will probably evaporate quickly and disappear. In the case of particularly strong convection where large drops have been held aloft, some may fall far enough to reach the earth as rain as the cloud disappears, giving us the peculiar experience of a light shower from an apparently clear sky overhead.

(Tomorrow: Clouds Do Not Float)

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Science Service,
1115 Conn. Ave.,
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