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A Science Service Feature

? WHY THE WEATHER ?

Dr. Charles F. Brooks,  
Secretary, American Meteorological Society,  
discusses:

KITES AND SOUNDING BALLOONS

Science owes a great share of its knowledge of the loftier regions of the atmosphere to the kite and the sounding balloon. Without the information which they have brought down from high aloft much that is known would still be left to guesswork. Kites carrying instruments to record atmospheric pressure, temperature, humidity and wind velocity, have attained heights of 4 miles, and sounding balloons, conveying similar recording instruments, except for wind velocity, have ascended nearly 23 miles. Still another type of exploring vehicle is the pilot balloon, carrying no instruments, but observable from the ground, and thereby permitting measurements of direction and movement of the free air. Airmen, too, have helped in this work, but not, of course, to the heights at which the balloons have worked.

Where there are clouds, scientists can learn much by observing their physical characteristics, directions and velocities of motion. But above the loftiest of clouds, the high cirrus, six or seven miles up, there is no way to observe the temperature, etc., excepting by sending up instruments. Human life cannot exist there.

The flight of the freed balloon, like a mammoth toy, with its little instrument basket trailing below, appeals to the imagination. It must go wherever the winds decree, first in one direction, as it feels the currents of a lower level, then in another, again off in yet another course, now slow, now fast, always higher and higher, while all the time the instruments are automatically registering the temperature, the air pressure, and the humidity, gathering invaluable data. Finally the balloon bursts, or if there are two balloons in tandem one bursts, and the instruments parachute to earth, usually to be discovered by someone, somewhere, and returned to the station from which the balloon ascended, perhaps many miles away.

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(Tomorrow: The Airman's Holes and Bumps)

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