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? WHY THE WEATHER ?

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

WHY THERMOMETERS DISAGREE

When on a cold winter morning the thermometers of a neighborhood disagree it does not follow that any one of them is inaccurate to the extent of their differences. An accurate thermometer must be exposed in a shelter or whirled through the air or vigorously fanned to measure correctly the air temperature. The reason for the fanning or whirling is that a much larger quantity of air is thus brought in contact with the bulb and the exchange of heat by conduction is thus emphasized.

If an instrument is on the side of a heated building the indication in calm cold weather may be as much as five degrees too high. A thermometer lying in the shade, even several feet above the ground will, in clear weather, read one or two degrees below the air temperature, and on the other hand when the stationary instrument is exposed to sunlight it will read one or two degrees above the air temperature.

But the greatest influence in creating differences between neighborhood thermometers on a clear, cold winter morning is relative altitude. On still winter nights the cold air slides down hill, and a few hundred feet of altitude on a hillside may mean 10 degrees difference in air temperature. A depression in the ground will contain a puddle of air much colder than anything around it.

(Tomorrow: The Black-bulb Thermometer)

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