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A Science Service Feature

? WHY THE WEATHER ?

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GETTING THE TEMPERATURE

A good thermometer must be filled with a liquid that will neither freeze nor boil at ordinary temperatures. Mercury will not freeze until nearly minus 40 degrees Fahrenheit is reached, and so serves the purpose in most parts of the country. The red liquid sometimes used in thermometers is generally colored alcohol. It freezes at a still lower temperature than mercury, but is likely to vaporize at temperatures over 100 degrees Fahrenheit. Sometimes the column of liquid in a thermometer separates and a small portion remains in the upper part of the tube, making the thermometer read several degrees too low. To correct this ailment, try to shake the separated piece down.

Well made thermometers have the scale etched on the glass tube itself, not on a wooden backing. A tube is likely to become losse from the backing and slip, displacing the reading. Another difficulty with the scale behind the tube is that it is more subject to errors of parallax than the scale on the glass. That is, if the observer looks at it from below or above, the top of the fluid will appear too high or too low on the scale.

A thermometer bulb should be freely exposed to the air, not protected by a backing or covered with a guard. But if black dust or smoke is allowed to adhere to the bulb, the thermometer will read somewhat too high.

In reading a thermometer, never stand too close nor breathe upon the bulb. Exposure to body heat will cause outdoor thermometers to rise several degrees in winter. Holding a candle under the bulb of a thermometer when making a reading at night is always to be avoided!

(Tomorrow: Thermometer Exposure)

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