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A Science Service Feature

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? WHY THE WEATHER ?

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

SMOKE MAKES COPPER SUN

In times of drought the forest or prairie fire has far-reaching effects upon the atmosphere, for the almost infinitesimally small particles which compose smoke often travel great distances. As they drift across the country a haze is created through which sun or moon shines purple or orange or red, usually like a disc of copper. The smoke particles scatter the shorter waves of sunlight, the violets and blues, and therefore accentuate the long wave colors, the yellow, the orange and the red. This was the cause of the famous yellow day of New England, September 6, 1881, when that part of the world was bathed in a ghastly light, so dim as to make necessary the use of artificial illumination indoors.

On a smoky day, the sun appears orange or red by transmitted light, but in other directions the haze is blue by scattered light. A similar effect may be obtained by filling a bottle with soapy water, the soap particles acting much the same as the smoke in the atmosphere. Hold the bottle toward the sun and its contents show an orange tinge. But hold it in a direction more than 90 degrees from the sun and the water appears blue.

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(Tomorrow: Fourth of July Weather.)

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