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A Science Service Feature

? WHY THE WEATHER ?

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HOT WEATHER DISCOMFORT

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The man in the street explains the discomfort of a hot wave with his familiar statement that "It's not the heat but the humidity." The man of science offers a somewhat different explanation. "It is partly," he says, "the heat" -- i.e., the temperature of the air, as measured with a thermometer. "Also it is partly the high humidity, partly the small amount of air movement, and partly radiation." All these things help to make us feel too hot for comfort.

The thermometer reading alone merely tells us how hot the air is. The weatherman measures the air temperature with a shaded and ventilated thermometer, and the reading gives the temperature of the air in both shade and sunshine. A thermometer exposed to the rays of the sun gets much hotter than the air around it and registers nothing more instructive than the temperature acquired by the instrument itself through absorbing solar heat.

The weather can feel hot when the air is cold. Under strong sunshine mountaineers and polar explorers sometimes suffer with heat when the thermometer shows the temperature of the air to be far below freezing. In Arizona people may feel cool when the temperature is 90; especially if a brisk breeze is blowing. In New York the same temperature always means uncomfortable heat. The difference is explained by the fact that the air of Arizona is much drier than the air of New York.

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