

A Science Service Feature

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? WHY THE WEATHER ?

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COUNTING DUST PARTICLES IN AIR

Many instruments have been devised for counting the number of dust particles in samples of air. A generation ago the standard instrument for this purpose was the dust-counter devised by John Aitken, the Scottish physicist, and the measurements obtained with this instrument were responsible for some rather startling statements still found in reference books; as, for example, that the air of a dusty room may contain upwards of 88,000,000 dust particles to the cubic inch and that a cigarette smoker sends 4,000,000,000 particles into the air at every puff.

What this instrument actually counted was the nuclei about which condensation occurs in the forming of an artificial fog, and it is now believed that a large proportion of these nuclei are too minute to deserve the name of "dust", most of them being far beyond the range of the microscope, and many, perhaps, individual gas molecules.

With an instrument now regarded as standard, the Owens dust-counter, which gives the number of particles in a unit volume of air actually visible under a microscope magnifying 1,000 or 1,500 diameters, the figures even for dusty city air^{are} rarely more than 100,000 per cubic inch.

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