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? WHY THE WEATHER ?

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EXPLAINING A RARE HALO

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Of the many varieties of luminous rings and arcs seen at times about the sun or the moon, known collectively as halos, there are several that imply the passage of light, at the time the halo is seen, through a cloud or fog in which a particular type of ice crystal predominates. Why a large majority of the crystals should thus assume a certain shape at a certain time is unknown, but is conjecturally explained as due to the presence in the air of some particular kind of impurity, which affects the process of crystallization occurring when water or water vapor turns to ice.

Because of this relationship, the possible occurrence of certain unrecorded forms of halo has been deduced from the discovery of previously unknown types of ice crystal, and, conversely, the observation of a previously unknown halo implies the existence of a particular form of crystal, which may never have been observed directly.

The party of weathermen wintering on the summit of Mount Washington, New Hampshire, recently observed a halo around the moon differing slightly in angular size from any previously reported. Their accurate measurements of its dimensions have enabled Dr. J.J. Humphreys, the well-known meteorological physicist, to<sup>determine</sup> the kind of crystals prevalent in the air above the mountain at the time of the observation. These were, according to calculation, pyramidal, and probably in the shape of two truncated pyramids, base to base.

Ice crystals of just this shape were drawn under a microscope in the Antarctic by the Belgian expedition of 1897-99, and have occasionally been reported elsewhere, but are rare enough to explain why the halo seen over Mount Washington had not previously been observed.

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