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? WHY THE WEATHER ?

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NACREOUS CLOUDS

By Charles Fitzhugh Talman,
Authority on Meteorology.

Several reports have been published in the past two or three years of observations of so-called "nacreous" or "mother-of-pearl" clouds, showing iridescent colors. Such clouds have been measured by photographic methods and found to be from 12 to 18 miles above the earth.

One suggestion as to the nature of these clouds, recently offered by Prof. Frederick Slocum, is that they consist of fine cosmic dust, their iridescence being an effect of diffraction. Professor Slocum writes of having observed such clouds in May, 1910, at a time when the earth was supposed to be passing through the tail of Halley's comet, and he thinks that, when there is no comet about to produce them, they may be due to meteor dust in the upper atmosphere.

The optical characteristics of nacreous clouds appear to indicate, however, that they are composed of spherical particles, rather than irregular dust particles, and it therefore seems likely that they consist of water droplets; which, as we know from observations in cold climates, can occur in the atmosphere at temperatures far below freezing. In the high latitudes where these clouds have been observed there is believed to be a rather marked upward movement of air at certain levels in the stratosphere. Dr. W.J. Humphreys has recently set forth the reasons for believing that the cooling of this ascending air by expansion can condense enough moisture to produce thin clouds even in the comparatively dry air of the stratosphere.

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