A Science Service Feature

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? WHY THE WEATHER ? Mailed December 28, 1927

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A LOW-LEVEL AURORA?

As a result, chiefly, of the very numerous photographic measurements of the aurora made in recent years in Norway, it has come to be generally believed that auroral discharges occur only in the rarefied gases of the upper atmosphere, never descending lower than about 60 miles above the earth's surface. Many early observers reported displays that were apparently much lower. In several cases, for example, they reported seeing the aurora with a hill or mountain as its background. The explanation has been offered that in such cases the observers saw a reflection of the auroral light on snowfields, rather than the aurora itself.

An account of a low-level aurora that may or may not be susceptible of this explanation has just been published by J.H.Johnson. In the winter of 1901 he was living at Eagle, Alaska. He writes:

"Just below the town of Ealge, at a distance of one-half mile or less, there is a precipitous bluff facing toward Eagle. The altitude of this bluff is 1,200 feet above the level of Eagle. One cold night I witnessed a singular aurora - an array of dancing streamers having prismatic colors - which was in line between me and the bluff. The streamers were about one-quarter of the way down below the summit of the bluff, and no part thereof reached the summit...I marveled at the fact of nearness, as all other auroras that I had seen appeared to be in the distant sky. I stood intently studying the phenomenon for several minutes that it lasted. It seemed to be nearer to the bluff than to me."

Mr. Johnson also states, as has so often been stated by others in connection with auroral displays, that a faint swishing sound accompanied the movements of the aurora.

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