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THE UNIVERSITY OF NEW MEXICO  
ALBUQUERQUE

INSTITUTE OF METEORITICS

May 23, 1950

To: Lt. Colonel Doyle Rees, Commanding Officer  
17th District, O. S. I.

From: Lincoln LaPaz, Director  
Institute of Meteoritics

Subject: Anomalous Luminous Phenomena (Seventh Report)

1. In the second report of this series, dated 1948, December 20, the writer listed ten significant differences between the bright green horizontally-moving fireballs observed in the interval 1948, December 5-20, and typical meteors. These differences were the following:

(1) The horizontal nature of the paths of most of the December fireballs is most unusual. Genuine meteors are rarely observed to move in horizontal paths.

(2) Again the very low height of the December fireball discussed in section 2 above sets it off in sharp contrast from the genuine meteors for which heights of the order of 40 or more miles are normally observed.

(3) The velocity determined for the fireball of December 12 is much less than the velocities determined from typical meteors (and yet is considerably greater than the speeds of the V-2 Rockets or jet planes or of conventional flares).

(4) In the case of meteorites that penetrate to as low levels as that determined for the fireball of December 12, the observed luminous phenomena are always accompanied by very violent noises. No noises whatever have been observed in connection with the various December fireballs so far investigated. (Note added on 1950, May 23: Possible exceptions to the noiselessness of green fireballs are the incidents of 1949, January 30, and 1949, December 4.)

(5) Genuine meteors normally show remarkable variations in brightness, beginning as fine thin hair lines, which are scarcely visible to the observer, and then brightening up to flash out near the end of their paths. In the case of the December fireballs most of the observers have reported that the green balls appeared almost instantly at their full brightness.

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