computed decelerations. This accuracy varies remarkably from one meteor to another.

5. Ceplecha used the Rocket Panel atmosphere, which now is known to be in error both in slope and in density values at meteoric heights.

6. He found n by plotting a certain computed quantity versus $\log v_\infty$. The theoretical slope of the expected straight line is $9+n$. Even if the other strong causes of error were absent, the small value of n in comparison with 9 clearly makes his determination highly unreliable, because of the non-negligible fluctuations of the computed quantities caused by (a) experimental errors; (b) variations in the drag coefficient with height and velocity; (c) irregularities in the shape of the meteoroids; and (d) fluctuations from the standard atmosphere.

7. The masses of Hawkins-Southworth meteors are averages of individual values given by each of the two plates of the same meteor and computed with relationship (48) of Hawkins' (1957) paper on the method of reduction of short-trail meteors. Often there was a large difference between the two individual values. Although on the average those masses represent a fair approximation, they are much less precise than the masses Jacchia computed by integrating the light curve for small-camera meteors and for his selected sample of long-trail Super-Schmidt meteors (Jacchia, physical data not yet published). This difference can be another reason why the exponent Ceplecha found for Super-Schmidt faint meteors is so much further off the mark than that of small-camera meteors. The principal reason is the basically different degree of fragmentation among the two samples of meteors.

Levin (1956) made a statistical verification of the theory of meteors by writing $I_m \sim m_\infty^\alpha v_\infty^\beta \cos^\gamma Z_R$ (Z_R=zenith angle of the meteor path) and by computing α, β and γ by least squares for Harvard small-camera data. The masses Levin used were those computed by Jacchia on the basis of $\tau_e \sim v$; therefore, according to single-body theory, the value of β must be 4. The result, $\beta=3.98\pm0.27$ and $\alpha=1.00\pm0.05$, confirmed that for bright meteors the classic theory seems adequate to describe accurately the average behavior of the phenomenon. On the other hand the computed value of γ was completely different from the expected value of 1. Levin and Majeva (1963) did the same kind of verification on the Super-Schmidt meteors reduced by Hawkins and Southworth, but the result was quite different. They divided those meteors into two groups, according to the different degree of fragmentation estimated from the beginning and end heights. The group of less-fragmenting meteors gave $\beta=3.67\pm0.08$, while the other group, containing meteors that experienced more severe fragmentation, gave $\beta=2.67\pm0.10$. These deviations from theory can be easily understood with the aid of some of the preceding remarks on Ceplecha's work. They show that one cannot extract any information on n by following that route. As a curiosity, in the above-mentioned book Levin, by using the masses computed with Öpik's value of τ_{ov}, determines the average visual magnitude of a meteor having $m_\infty=1$ g, $v_\infty=10$ kms^{-1}. Then, making use of this value, he reverses his procedure to find the value of τ_{ov}. It is peculiar that the result he gets is completely different from Öpik's value.

I shall conclude this introduction with some brief remarks on the units in which the luminous intensity (and consequently the luminous efficiency) is expressed. In many papers the luminous intensity is measured in ergs; in this case the relation between the visual magnitude M_v of a meteor and the corresponding intensity I_v has been given by Öpik (1958) as

$$M_v=24.30-2.5\log I_v, \qquad (6)$$

where the constant 24.30 is determined by taking into account the sensitivity curve of the human eye; it corresponds to the sun's stellar magnitude -26.72 and to the energy distribution of the solar radiation. This system, in which τ is a dimensionless quantity, seems quite natural to the physicist, but it is not convenient for practical use, especially in photographic work. Therefore Jacchia (1948) introduced a system that takes as unit of intensity that of a star of magnitude zero. In this system τ has dimensions zero mag g^{-1}cm^{-2}s^3. In the following we will use Jacchia's system, which has the clear advantage of being closer