That the exponent for scaling is about 1/4.1 is suggested in an unexpected area. The distribution of meteorite falls by size and number was found by H. Brown[18] to follow a relation Δ log mass/Δ log frequency = 0.77 through the range of 32 kg to 1,024 kg. He also pointed out the "striking resemblance" of the frequency distribution curve as a function of magnitude for asteroids (see Kuiper, *et al.*, Ref. 19) to the curves for meteorites, the congruent slope being 0.76. A study by Opik[20] of the size distribution of 812 craters on Mare Imbrium when plotted in the same manner, except that a fixed 20/1 ratio of crater to meteor diameters is used, gives a slope between 0.45-0.50. However, applying the energy exponent ¼ instead, the slope is 0.72-0.75. All this may be fortuitous, but it does represent different kinds of sampling of large numbers of the same kind of things in the space around the earth.

The frequency, in fact the very existence, of *random* bodies in the 300-600 km range may well be zero, and in the present inventory of astronomers, the number is zero. However, the presence of large maria on the moon is disturbing in this regard. It may be that in our time lunar explorations will clear up the dating and mechanism of formation of maria, but until then it should be useful as well as instructive at least to consider the possible effects of *large collisions*.

Penultimate disasters have not been missed by far in time or distance. The "mythologies" of ancient peoples include descriptions of very close passes. In 1960 an unknown object of an estimated 8 cubic km passed close to our orbit, 8 million km from the earth. The asteroid Hermes slid to within 320,000-640,000 km of the earth in 1937, and near the turn of the century, Eros, later Amor, came within 20 and 16 million km. Estimated kinetic energies represented by these bodies are in the order of 10^{30}, 10^{20}, 10^{31} and 10^{32} ergs. Visitations by these would have been no myths.

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REFERENCES

1. L Coes, Jr. A new dense crystalline silica, *Science*, **118**, 131, 1953.
2. F. Dachille and R. Roy. High pressure region of the silica isotypes, *Z. Krist.*, **111**, 451-61, 1959.
3. E. C. T. Chao, E. M. Shoemaker and B. M. Madsden. First natural occurrence of coesite, *Science*, **132**, 220-222, 1960.
4. E. C. T. Chao, J. J. Fahey, J Littler and E. J. Milton. Stishovite, SiO_2, a high pressure mineral from Meteor Crater, Arizona, *J. Geophys. Res.*, **67**, 419, 1962.

4a. S. M. Stish
10, 837-39, 1
4b. J. J. Fahe
personal co
5. H. H. Nini
1956.
5a. H. H. Nini
Western A
6. R. S. Dietz
7. V. B. Meen
8. C. S. Beals
Ferguson a
9. A. O. Kell
Earth Scie
College, Pe
10. G. H. Wa
Rieses, Doc
11. T. Kaljuve
Tallin-Reva
12. V. Vand.
13. C. S. Richt
1958.
14. H. Shapley
15. Cratering
liminary t
Research, 6
16. G. Fielder
structure o
123, 15-26,
17. R. B. Vail
1961.
18. H. Brown,
borhood of
19. G. P. Kui
Ser.), 3, 2
20. E. J. Opi
34-36, 1957.
21. D. M. Bar
30, 23-28, 1
22. A. J. Ear
New York,
23. J. D. Boo
tionship to
24. J. D. Boon
Laboratory

GENERAL—
R. B. Bald
B. Gutenb