

meteors; some of these were extinguished, but many continued onward until lost to sight in the southeast. The spectacular display caused a sensation in the Toronto region, and Professor C. A. Chant, the Editor of *The Journal of the Royal Astronomical Society of Canada*, immediately undertook an investigation. His conclusion was that the meteors had been traveling almost horizontally at an altitude of not more than 30 miles (in many places loud rumblings were heard, as would be expected at so low an altitude). The geocentric velocity of these objects was in the neighborhood of 6 miles per second. Most surprisingly, he received reports of a phenomenon of unmistakably the same character from Regina, Saskatchewan, and from Bermuda — places 1200 miles distant from Toronto and in opposite directions from it. His conclusion, therefore, was that the bodies were temporary satellites of the Earth, maintaining a sensibly circular orbit practically parallel to the Earth's surface, while slowly being consumed by atmospheric friction, and that the same objects had been seen by all the observers. He chose for the orbit a great circle passing within 20 miles of Toronto, and cutting the equator in longitude 32° W, at an azimuth of $54\frac{1}{2}^\circ$.¹

Thus these processional fireballs appeared to have traveled nearly twice as far as others of their kind, which have never (as far as I know) been tracked for more than 1500 miles. Yet Pelion was shortly piled upon Ossa, for W. F. Denning of England was able to discover two marine observations, patently of the same sort of "procession," which extended the observed path by no less than 3000 miles south-eastward, giving a total length of 5600 miles.² Assuming that the same objects were seen at all stations, we may conclude that they had traveled nearly a quarter of a complete orbital revolution around the Earth when last sighted near Fernando de Noronha Island, south of the equator off Brazil — and were still apparently "going strong." There is nothing in the annals of meteoritics that can compare with this path-length.

In a series of papers appearing some 10 years after the event, Pickering considered the data in more detail, but was not able to reconcile the times recorded, which seemed to indicate a velocity only half the necessary 5 miles per second (orbital velocity for satellites near the Earth); the observations also failed to lie well on a great circle, and he was forced to assume that the procession seen in Saskatchewan was not following the same course as that seen from Toronto to the equator.³ In 1928, W. J. Fisher⁴ pointed out for the first time that such slow-moving bodies traveling over such great distances would not appear to describe a true great circle, but a course curved toward the west, as the Earth rotated beneath them; this fact disposed of the difficulty in fitting all the points to a single trajectory, altho if one examines the data it turns out that the curva-

ture of the path is rather too by a velocity as high as 5 miles

A much more serious supposed orbit, because of its traveling only 30 miles above pointed out, collide with the reached the equator; the air any such long flight except by picture drawn by Chant was fied. Attempts were made⁵ to (26 miles) or to disregard it a 40-45 miles instead; but this native was to assume that t seen at the different stations merely related manifestations extended swarm, or rather "s end reached down to the 30- and that the processions witn successive "peeling off" of its slowly lost altitude in its orb count for the striking simila observation without requiring than a fraction of the whole- ous replenishment by fall-in Hoffmeister,⁶ and endorsed b

Another and more radical deny that there was any con observations, and to explain linkage with the others is on approach was first adopted b that what was seen near Tor ships, whereas what was seen teors.⁷ In 1939, C. C. Wylie observations intended to sho "meteor shower" localized ov distant observations.⁸ Wylie regarded as the most "conser altho they are not likely to s ined the extensive observati contribution on the subject s

II. RESULTS

All the attempts at intery servational material collecte