It struck the Earth while ascending in its orbit and its motion probably was retrograde.

The object could not have been an ordinary iron or stone meteorite. As pointed out by Kulik, there is no record of any other known meteorite impact which produced such a vast mass of hot gas and which devasted such a large area.

For example, a meteorite, weighing approximately 100 tons, fell in the eastern part of the Soviet Union on 12 February, 1947. The largest of the craters produced was 92 ft. wide and 16 ft. deep. Still, in a photograph of this large crater trees can be seen standing right next to it.[34]

If the object that struck in 1908 was a cometoid, then the actions and damages can be understood. From Fig. 3, the mass of the object must have been in the neighbourhood of 100–10,000 tons. Astopovich estimates 200 tons. An ice-dust entity of this size would have been vaporized and heated to high temperatures upon impact. The instantaneous inferno would pass quickly since the hot gases would blast out to produce a violent but short-lived hurricane. Iron and stone meteorites do not tend to produce hurricane-like effects since the vapours condense out quickly, and most of the mass would not have vaporized.

The gases produced by a cometoid upon impact would consist largely of carbon dioxide, water, methane and ammonia in addition to deadly poisons such as hydrogen cyanide and cyanogen. The latter gases would quickly rise and clear the area, however.

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CORRESPONDENCE

Orbit of the Moon

SIR,

In the interesting paper of Dr. Slater,[1] I read on p. 323: "... the Moon, the plane of whose orbit is inclined 5° to that of the ecliptic, and rotates round the latter once every 18 years 10 days."

This is not correct, the exact value being 18·6 years ("nutation" of the Moon's orbit); 18 years 10 days is the length of one Saros, a period after which the eclipses of Sun and Moon repeat themselves with great exactness.

The last maximum of the inclination of the Moon's orbit to the equator of the Earth occurred in August, 1950; the inclination was then 23° + 5° = 28°, and the Moon's ascending node coincided with the vernal point. 9·3 years later, after a half-period of the nodes, the inclination was minimum (23° − 5° = 18°); this occurred in December, 1958.

The next maxima of the inclination will be in March, 1969; November, 1987; June, 2006; etc. The next minima will be in: July, 1978; March, 1997; etc.

I beg to remain, Dear Sir,
Very truly Yours,

JEAN MEEUS.
Eigenaar.

Kesselberg Sterrenwacht,
Bergstraat, 65,
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30 *June*, 1960.

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