METEORITES IN THE PHILIPPINES

Meteoric Astronomy is that part of Astronomy that treats of those bodies which, entering the earth's atmosphere from without, appear for a brief interval either as star-like objects shooting across the sky, or as large bodies shining with brilliant light, a few of which eventually reach the earth. Usually three classes of such bodies are considered: shooting stars or meteors; fireballs or bolides; and meteorites. The main distinction between the first and second class is the degree of brightness. A meteor is considered a *shooting star*, when it ranges in brightness from the faintest we can see to a body as bright as Saturn: but "*fireballs* generally are considered to be at least as bright as Jupiter or Venus, and in rare cases have been described as many times larger and brighter than the full moon with all possible intermediate grades of brightness."[1] A fireball that bursts is called *bolide*. The difference between the meteorites on one hand and the shooting stars and fireballs on the other is that the meteorites get through to the earth's surface as solid bodies, while the other meteors do not reach the surface of the earth. Some writers contended that the earliest reference to a meteorite was the passage contained in Josue, X, 11, where the Lord is said to have cast down great stones upon the Amorrithes: but it is gratifying to see that this sense of the passage is considered now more than doubtful.[2] There is historical evidence to show that the fall of meteoric stones was recorded in the Chinese annals as nearly as 2,600 years before the present. Of the meteorites still preserved the oldest of which we have an exact record fell in November 1492, near Ensisheim, Alsace.[3]

According to the mineral composition, many authors, like Tsechermak and Brezina, divide the meteorites into three major classes, based on the relative amounts of nickeliferous iron and stony matter; namely, siderites, or meteoric iron, consisting mainly of nickeliferous iron; *siderolites* or meteoric stony-irons, in which iron and stony matter are both in large amounts; and *aerolites* or meteoric stones, consisting mainly of stony matter with nickeliferous iron, and troilite, when present, scattered through it as small grains.[4]

Without attempting to set up any theory as to the origin and constitution of these extra-terrestrial bodies, the purpose of the present paper is to collect all sound information I could secure regarding meteorites in the Philippines. Seventeen cases are discussed, producing evidence in favor of two findings and twelve falls and warning against three sets of spurious meteorites. A fall of one meteorite per day is considered a conservative estimate, when the whole surface of the earth is considered. For every meteorite which is found perhaps 100 have fallen.[5] Scarcity of population, vast expanse of

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[1] Charles P. Olivier, Meteors, p. 7; Russel, Dugan, Stewart, Astronomy, I, n. 523.

The famous Stanislas Meunier defines the meteorites this way: "On donne le nom de Météorites á des corps solides, pierreux ou métaliques, d'origine extra-terrestre, donc on observe de temps en temps á la surface du sol." (Apud de Mauroy, catalogue de la collection de Météorites de l'observatoire du Vatican, p. 6.)

[2] Charles P. Olivier, Journal of the Franklin Institute, vol. 207, p. 737.

[3] Meteors, Olivier, pp. 2–4; The Journal of the Royal Astronomical Society of Canada, VII, p. 317; Selga, El aerolito de Ensisheim, Revista de la Sociedad Astronómica de España y América, vol. 10, pp. 24–27.

[4] G. T. Prior, Catalogue of Meteorites, British Museum, 1923, p. 2.

[5] Meteors, Olivier, p. 247.