

The Fall at Albareto, 1766: Described as Volcanic by Domenico Troili
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The Abbé Domenico Troili (1722-1792), of the Society of Jesus, is widely credited by meteoriticists as having written the first description of the fall of a meteorite. Troili did, indeed, write such a description in his 43-page *Ragionamento della caduta di un sasso*, published in Modena, Italy, in 1766. He collected reports from many individuals who said that at about five hours after midday, when the sky was clear except for some clouds over the mountains on the far horizon, many people leaving their fields suddenly saw distant flashes of lightning and heard thunder. This rose to a crescendo of cannonading with loud explosions overhead. Numerous people saw a body streak across the sky and plunge to the ground. To some, the trail looked bright and fiery; to others, dark and smoky. The fallen body made a hole a meter deep in the earth and instantly broke into many pieces. It was a stone that was very heavy, irregular in shape, and magnetic. The outer surface looked as though it had been burned by fire. The inner parts looked much like sandstone with small steely sparkles.

Troili closely examined the stone and detected in it small grains of a brassy mineral he called "marchesita", which was long assumed to be pyrite. Thirty-six years later, E. C. Howard (1771-1816), who analyzed a series of separated minerals from fallen stones, noted that this reddish-yellow iron sulfide, he called "martial pyrites", was scattered through all of the stones he studied. It differed from all known sulfides in being nonmagnetic and more iron-rich than pyrite, but Howard despaired of extracting a pure sample on which he could make a definitive analysis. Not until the early 1860s was this mineral shown to be stoichiometric iron sulfide (FeS) and recognized as a new species virtually limited to meteorites. In 1863, Gustav Rose (1798-1873), published his classification of meteorites at the Mineralogical Museum of Humboldt University in Berlin, named the mineral "troilite" in honor of Domenico Troili for his description of it in the Albareto stone.

Approximately 2 kilograms of the stone were recovered and ultimately identified as an L5 chondrite. Today small fragments of Albareto are dispersed in numerous museums and analytical laboratories, with the largest, a 605-gram mass, in the Museum of the University of Modena.

Troili's account of the Albareto fall was so persuasive that he frequently is cited as the first person to document such an event. We can only regret, therefore, that Troili himself did not imagine that the stone fell from the sky--much less from space. Troili wrote that by some variation of a volcanic eruption, "...the stone was ejected from a nearby vent in the Earth."