DIAMOND METEORITES BETWEEN SCIENCE AND LEGENDS

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Introduction: Much early human beings speculated that diamonds connect with extraterrestrial sources. The native folklore version regarding the origin of the Vaal diamonds of South Africa reflects these speculations, as it says [1, pp. 47]: "after the passing of many moons, and when there was great sorrow in the land, a spirit, pitying the wants and miseries of men, descended from heaven with a huge basket filled with diamonds. The spirit flew over the Vaal, starting beyond Delpoort's Hope, sowing diamonds as be flew on, past Barkly West, Klipdam, and on towards Kimberley, throwing out handful after handful from the huge basket all the while. On reaching Kimberley, where at the time large trees were growing, his toe got caught in the branches of a high kameeldoorn tree, and, tripping, be upset the basket, emptying out all the diamonds; thus forming the Kimberley mines!". Realization the terrestrial volcanic pipes as a source of diamonds after the discovery of the South Africa diamonds in 1867, did not rule against the assumptions that heavenly processes contribute to the terrestrial diamonds.

Extraterrestrial Diamonds: Haidinger in 1846 described a cubic form of graphite crystals in Arva, Hungary, iron meteorite, which Gustave Rose suggests that the crystals are pseudo morphs after diamond [2]. Discovery of tiny grains of diamond in Nova Yori meteorite in 1888 followed by reporting micro grains of diamond in the Canyon Diablo meteoritic iron fragments, in 1891[2], reintroduced the legends regarding the extraterrestrial sources of diamonds, e.g. the legend of the "blazing star", to the scientific community. Therefore, in 1912, a group of scientists and financiers organized a syndicate for locating the "blazing star", believed to be one solid diamond, which according to the legend, fell ages ago in the Arizona Desert [1] in the fall site of Canyon Diablo meteorite. In the meantime, A. Meydenbauer [3] suggests that the diamond of the earth is of cosmic origin, having fallen as a meteorite at later periods of the earth's formation. In his comment on this hypothesis, Sir William Crookes [4, pp. 135-136] states: "according to this hypothesis, the so-called volcanic pipes are simply holes bored in the solid earth by the impact of monstrous meteors the larger masses boring the holes, while the smaller masses, disintegrating in their fall, distributed diamonds broadcast. Bizarre as such a theory appears, I am bound to say there are many circumstances which show that the notion of the heavens raining diamonds is not impossible".

On the other hand, researchers, e.g., L. Nikolaev [5] denies the occurrence of diamond meteorites, considering diamond in meteorites is quite rare and only a few diamond-containing meteorites are known. Nevertheless, the scientific research indicates that diamonds is one of the solid minerals made by stars, [e.g. 6-7].

The First Identified Diamond Meteorite: The first solid evidence of the possible common existence of diamond meteorites may come from the discovery of diamond-rich carbonaceous pebble, in 1996 from the Libyan glass area southwestern Egypt [8], which studies [e.g., 9] indicate that it is of extraterrestrial origin with tendency to consider it of pre solar formation. This pebble-seized material, which known as "Hypatia stone", consists of visible diamond grains. Realization the extraterrestrial source of this diamondiferous material came accidently for its association the Libyan glass, which has been received considerable scientific interest. This may indicate the existence of other diamondiferous meteoritic materials that do not receive the required investigations to clarify their sources. This discovery calls attention to the possible occurrence of diamond meteorites [10], a topic, which is slowly rolling away from the realm of legends to science. We may find in the near future an additional class of meteorites, called "diamond meteorites", within the present day known classes. Who knows?

References:

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