

WHY METEORITES. M. Th. S. Heikal, Geology Department, Faculty of Science, Tanta University, Tanta 31527-EGYPT
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Meteorites have been objects of fascination, speculation, and fear for most of recorded human history. Early peoples thought that fiery streaks in the sky were omens of ill fortune and sought ref-uge from their evil powers. Impacts of meteorites with Earth are now recognized as the main cause for several periods of mass extinction on the planet, including termination of the dinosaurs 66 million years ago.

During Earth's long history, our planet was repeatedly bombard-ed by meteorites, asteroids and comets. The first 4 billion years, or about 90% of geologic time, comprise the Archean Era. Also, during Proterozoic Era (1.85 billion years) and the end of Plaeo-zoic Era (~250 million years), end of Triassic period (210 mil-lion years) and Cenozoic Era (65 million years to present-day) large meteorites slammed into the Earth, creating impact struc-tures in several localities of the world such as Manicouagan im-pact structure in Quebec, Canada and Barringer Crater, north Ar-izona, USA. Several remnants of ancient meteorite craters sug-gesting it was just as heavily bombarded as the rest of the solar system. Between the orbits of Mars and Jupiter lies a wide belt of asteroids containing a million or more stony and metallic irregu-lar rock fragments. Recently, cosmochemist believed that almost meteorites have formed by partial melting of previ-ously unman-tled, volatile-rich chondrite rocks.

The present work is focused on the characteristic features of me-teorites (based on geological and astronomical data) such as dif-ferent types and their composition, world distribution, the global effects of large meteorite impacts through the geologic eras, eco-nomic aspects and environmental assessments. In addition, the origin of Black Stone in Mecca and its relation with me-teorites is taken into consideration.

Keywords: Meteorites- Composition-Impact craters-Geologic ages-Economic Aspects and Environmental im-pacts-Black Stone.