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Visualizing a Prehistoric Catastrophe: The Thera Eruption

Emre Kurucayirli

Department of Classical and Near Eastern Archaeology, Bryn Mawr College, Bryn Mawr, United States
(ekurucay@brynmawr.edu)

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Emre Kurucayirli
(Department of Classical and Near Eastern Archaeology, Bryn Mawr College, USA)

The eruption of the volcanic island of Thera (modern Santorini) in the southern Aegean Sea, which took place in the mid-second millennium BCE (Late Bronze Age in archaeological terms), was one of the largest volcanic events in history. The eruption is estimated to have expelled 61 km3 of material into the atmosphere, buried the villages of the island under ash, and possibly generated tsunamis that hit the north coast of Crete and southwest coast of Anatolia. Consequently, this catastrophic event had certain impacts on the environment and human population of the Aegean basin, perhaps even of the wider eastern Mediterranean, the extents of which constitute a major academic debate. In this paper, the author anticipates to address the past and ongoing research to describe this rare volcanic eruption that happened about 3500 years ago.

The description of the event will be carried out in two major components. Firstly, the theories about the nature and sequence of the eruption will be outlined and the problems in its absolute dating will be addressed. Subsequent to this, the possible impact of the eruption on the Late Bronze Age societies of the Aegean and the eastern Mediterranean will be discussed. In each case the conflicts between different views will constitute a focus of the presentation.

The information about these subjects involves a synthesis of evidence from geological and archaeological investigations. The inquiry about the nature and extent of the eruption is primarily derived from the examination of the caldera and the 60 meter thick tephra layer on the Island of Thera itself, as well as the ash and pumice layers found on other islands of the southern Aegean. The signature of the eruption can also be traced beyond the southern Aegean as evidenced by Thera-related ash or pumice detected on the islands of the eastern Aegean, in western Anatolia, and at several sites on the Levantine coast.

As far as the social impact of the event is concerned, the information is exclusively based on the archaeological evidence, which may display certain differences between contexts predating the eruption and those that postdate it. However, the observations are open to multiple interpretations and there are conflicting views on how dramatically the eruption effected the Late Bronze Age societies of the region.

Even though there is ongoing debate about the exact nature, extent and impact of the Thera eruption, we can now more accurately characterize this event than the early researchers of the mid-20th century. By delivering the outline of the history of research, this paper is expected to demonstrate how the collaboration between earth sciences and archaeology illuminates a major and rare natural catastrophe that happened more than three thousand years ago.