

## WHAT IS THE POWER OF A VOLCANO?

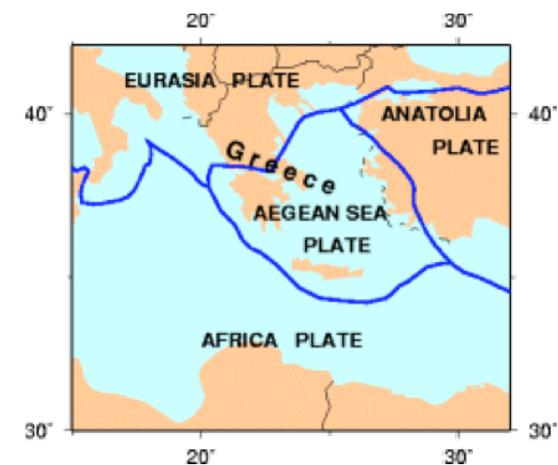
Despite their reputation of destruction and death, volcanoes are one of the most powerful tools we have in preservation to this day – providing exclusive information on the lives of our ancestors. It is almost impossible to speak of volcanoes without reference to the town of Pompeii in Italy, famously buried under ash and rubble after the eruption of Mt Vesuvius in the 1<sup>st</sup> century. However, one of the most fascinating sites preserved by volcanic activity was subject to a volcanic eruption predating this by over a thousand years.

### THERA

Formerly known as Thera, Santorini Island is almost completely unrecognisable from the 2 small Islands (still part of it's foundations), which stood there over 2 million years ago. Continuous volcanic activity is to blame for it's transformation caused by the African plate moving underneath the Eurasian plate at its converging boundary.

Sea floor eruptions near Akrotiri peninsula were the first to disturb the Islands, forming lava domes, which are now part of the hills around the peninsula. Since then, the centre of volcanic activity has moved round the island continuously, now focused in the centre.

At a first glance, volcanic activity seems unlikely on Santorini. When seen from above, however, the true volcanic power of Santorini is exposed to the naked eye on an extraordinary scale. The open lagoon in the centre of the Island is actually a caldera: the base of the collapsed volcano caused by volcanic activity 25,000 years ago.



## WHAT HAPPENED IN 1646 BC?

Despite originally conflicting data from radiocarbon dating and dendrochronology, ice core data has revealed the eruption's precise date. 100 times more powerful than that of Mount Vesuvius, a volcanic eruption from the centre of the caldera was one of the most powerful in human history.

Unlike the eruption devastating Pompeii, the lack of skeletons found in local town of Akrotiri suggests inhabitants were prepared for the eruption and managed to evacuate. While heavier, less portable items of furniture such as large ceramic pots were found intact, many smaller, more valuable possessions were absent, indicating that residents took what they could before seeking safety.

However, tsunamis were also known to have struck the island due to displacement of water from volcanic material entering the ocean. This could have swept bodies away instead, leaving little evidence of deaths. These theories are still disputed today.

Even if inhabitants did manage to escape, Akrotiri remained under a 60m blanket of ash until it was excavations began in 1967,

revealing one of the best-preserved Bronze Age settlements discovered.



Akrotiri

Unlike Akrotiri, the nearby ancient city of Knossos in Crete was not buried under volcanic ash. The Minoan settlement and former capital of Crete was discovered in the 19<sup>th</sup> century, leading to extensive excavation and restoration of the Knossos Palace. Although there is strong evidence earthquakes affected the city due to continuous repairs to Knossos Palace, the settlement was abandoned by the Minoans over 200 years after Santorini's eruption. However, the effect on Minoans was major.

Minoans are thought to have evacuated the city in anticipation of the Thera eruption and fear of tsunamis, thus direct death from the eruption was not a likely cause of the civilisations' decline. Despite this, changes in climate may have affected crop yields for the worse and caused the Minoans abandon farmland.

There is still speculation as to why the settlement was completely abandoned around 1400 BC. There is evidence of a great fire, although others argue the Minoans reached a more violent end entering battle with another people, the Mycenaeans.

## HOW DOES A VOLCANO AFFECT CLIMATE?

Sulphur dioxide released into the stratosphere (upper atmosphere) from volcanic dust is converted to sulphuric acid aerosols, which absorb electromagnetic radiation (the sun's rays). This means less heat reaches the atmosphere, thus the climate becomes cooler and milder. In the case of Thera, this lasted for at least 2 years.

## THE PALACE AT KNOSSOS

The term 'Minoan' was coined by Arthur Evans after discovering the palace in which King Minos lived. Previously believed to be mythical, he was in fact a powerful ruler in Crete, although how legitimate his status as son of Zeus was is questionable.

Legend has it that King Minos' wife, was made to fall in love with a bull and give birth to the Minotaur as a punishment to Minos from Poseidon for refusing to sacrifice the bull. Bulls were an important part of Minoan culture; frescoes of athletes engaging in bull jumping and bull ornaments found at Knossos indicate not only were they a source of entertainment but fascination also. This perhaps stimulated the idea of a half man half bull creature.

The structure of the second palace also lends itself to the labyrinth where Minos supposedly kept the Minotaur, with many passageways leading to a central courtyard. Although the first construction of the palace was fairly primitive and more protective than decorative, King Minos' rule saw the construction of a mighty throne room and many more pleasing artefacts.



*Bull fresco,  
restored in  
Knossos*

## THE BIBLE

The eruption at Santorini didn't just affect the people of Greece; traces of volcanic ash from the explosion have been found as far as Egypt. This has led geologists to believe that it could have been responsible for the 10 plagues of Egypt mentioned in the Old Testament. Toxic acids in the ash could have turned rivers to a blood like colour, causing disruption to wildlife thus a plague of locusts and cattle deaths.

Weather and climate would have also been affected in a similar way to Knossos – darkness and changes in precipitation (perhaps hail) causing boils due to acid content. Children may have even been sacrificed in an effort to please gods and end the plagues.



*The Plague of Locusts,  
James Tissot*

So, what is the significance of this volcanic eruption which took place over 3500 years ago? From providing us with knowledge of Bronze age settlements to potentially causing religious 'miracles', the eruption of Thera most certainly changed the course of history.