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Pompeii: Portents of Disaster

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The people of Pompeii were quite unprepared for the eruption of Vesuvius - getting on with their busy lives, in total ignorance of what was to come. The signs of impending disaster, though, were there - why did no-one pick up on them?

The unexpected catastrophe

It is certain that when the eruption of Vesuvius started on the morning of 24 August, AD 79, it caught the local population utterly unprepared. Although at the same time, as we now know in retrospect, all the tell-tale signs were there to warn them.

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It is mainly thanks to the vivid eye-witness account of the younger Pliny (a Roman administrator and poet, whose many vivid letters have been preserved), that we have some understanding of what happened. And it is through him that we can gain insight into the reactions and feelings of the people caught up in the drama of this natural catastrophe.

Pliny's account leaves no doubt that everyone was caught unprepared. His uncle, known as Pliny the Elder, was stationed in command of the imperial naval base at Misenum, on the north-west extremity of the Bay of Naples. He was not only the senior military officer in the district, but possibly the most well informed living Roman on matters of natural science. His 37-volume *Natural History* is the longest work on science in Latin that has survived from antiquity.

But for all his science and his seniority, his nephew tells us that the elder Pliny was relaxing, after a bath and lunch, when Vesuvius started to erupt. And the sighting of a column of smoke 'like an umbrella pine' on the far side of the Bay triggered a response more of curiosity than of alarm in him. He and his companions were evidently not anticipating such an event.

The same account reveals, however, that the signs were there. Pliny's casual reference to earth tremors 'which were not particularly alarming because they are frequent in Campania' reveals the Roman's comprehensive ignorance of the link between seismic activity (earth tremors) and volcanic activity.

The volcanologists of today constantly monitor any changes in levels of seismic activity from the observatory on Vesuvius, because they know that the same increase of activity in the deep reservoir of magma (molten or partially molten rock beneath the Earth's surface) causes both earth tremors and volcanic eruptions. Through measuring seismic activity, these scientists expect to predict an approaching eruption months in advance.

They also know that the activity of Vesuvius is recurrent, and that the longer the intervals between one eruption and another, the greater the eventual explosion will be. The frequent but low-level activity of Vesuvius in recent centuries has relieved the build-up of pressure in the magma chamber. The catastrophic magnitude of the eruption of AD 79 was connected with the extended period of inactivity that preceded it. A long interval combined with mounting seismic activity is a sure sign of impending disaster.

Of course, the Romans could not know this, and our own knowledge owes much to the care of Pliny's description. The long inactivity of the volcano naturally lulled the people of the region into a false sense of security, though they were aware of the signs of burning at the peak of the mountain.

They were not the first to be so lulled: recent excavations at the site of the new NATO base at Gricignano, on the north of the Bay, have revealed two catastrophic eruptions that preceded that of 79, and wiped out the populations of a densely occupied territory. The most important earlier eruption, known as that of the 'Avellino pumice' occurred around 1800 BC; several sites, especially one near Nola, reveal the destruction of Bronze Age settlements, with their huts and pots and pans and livestock. But of this the Romans knew nothing.

Signs and portents

The irony of this is that the Romans were extremely interested in predicting the future, and they had a range of ways to detect what they saw as the approaching wrath of the gods. They were adept, for example, at observing 'portents' in the shape of strange sights and sounds, or unusual births.

... there were warnings of the eruption of Vesuvius.

Even in these terms, there were warnings of the eruption of Vesuvius. Earthquakes in themselves counted as portentous, and the historian Cassius Dio, writing over a century later, reports repeated sightings of giants roaming the land. This was a bad portent indeed, given that one standard explanation for the volcanoes of south Italy was that, when the gods defeated the rebellious giants and brought peace to the universe, they buried them beneath the mountains, and that it was their stirrings that caused the eruptions.

But while the ancient imagination doubtless conjured up giants in plumes of gas from fumaroles (vents from which volcanic gas escapes into the atmosphere), the earthquakes that Pliny described so casually were more than just portents. Current thinking, however, had not yet caught up with their significance. We know this because, by an extraordinary coincidence, the philosopher Seneca, advisor to the emperor Nero, wrote a discussion of the scientific causes of earthquakes only a few years before the eruption.

Seneca's treatise on the causes of natural phenomena included an entire book on earthquakes, and at the time he was writing, the news was coming in freshly of the catastrophic earthquakes in Campania of AD 63, which caused extensive damage to both Pompeii and Herculaneum.

Seneca writes that he regarded it as likely that earthquakes in different parts of the world were interconnected, and even that they were linked to stormy weather, but he draws no link with volcanic activity. Indeed, he goes so far as to reproach the landowners who were deserting Campania for fear of further earthquakes.

Response to earthquakes

The earthquake of AD 63 caused extensive damage to both Pompeii and Herculaneum, as we can see from repairs made to the buildings. Some areas seem to have been worse affected than others - there are cases where entire houses were demolished and reduced to agricultural land. Upper floors would have been particularly badly affected - and indeed some buildings do have blocked-up doors at the top, indicating that the higher floors had been abandoned.



Caldarium of the Thermae ©

But more impressive than the signs of damage are the signs of the resilience of the local population. Damaged houses were being extensively repaired and redecorated at the time of the AD 79 eruption, and there was a comprehensive programme of restructuring of public buildings in the Forum of Pompeii.

... tenaciously repairing their city, and trying to carry on with life as usual.

The evidence points to a continuous process of repairs and rebuilding from AD 63 onwards. It used to be assumed that the earthquake described by Seneca was the only cause of damage, and that signs of incomplete work suggested that it took the cities a long time to recover from the first catastrophe. But we now know from volcanological research that a series of seismic episodes immediately preceded the eruption, causing further damage to structures that had already been repaired.

So, in the house of the Chaste Lovers at Pompeii, archaeologists discovered that the oven of a bakery had suffered major cracking; it had been repaired and plastered over, but had then been damaged again - and building work was already in progress to mend this new damage. In the same block, three cesspits in the street, which linked to latrines in the houses, had been dug out immediately before the eruption, presumably to restore them to full functionality.

Outside in the main street, an open trench was found, cutting the entire length of the walkway as far as a water-tower at the crossroads: seismic activity had interrupted the water supply, but people had been hard at work repairing it. A frequent sight in the excavated houses of Pompeii is that of heaps of plaster, which must have been brought in ready for new decoration. Sometimes even the pots and compasses of the decorators are in position.

The Pompeians in August 79, far from abandoning their city, or fretting about earthquakes as portents of future destruction, were thus tenaciously repairing their city, and trying to carry on with life as usual. There was every reason to: the economy of the Bay was booming, with the great port of Puteoli as one of the biggest nodes of Mediterranean trade, and the holiday villas of the rich bringing constant investment.

The eruption

Taken unawares by the eruption, the population of the towns and villas that circled the Bay could only respond with panic. Pliny depicts his uncle as a model of Stoic fortitude: calmly sailing directly into the danger zone (where he subsequently died), and taking a bath, dinner and sleep while the catastrophe unfolded. But all around him is panic - Rectina in her villa, Pomponianus in his.



A CGI image showing Vesuvius erupting ©

The young Pliny too stays calm, but his mother weeps and implores, and by the time they set out to flee northwards, a dense black cloud of ash has blotted out the

light, and the crowds of screaming people fleeing around them are in terror. The skeletons found in Pompeii and Herculaneum give us an equally eloquent testimony of panic and uncertainty.

The eruption lasted for more than 24 hours ...

The eruption lasted for more than 24 hours from its start on the morning of 24 August. Those who fled at once, unburdened by possessions, had a chance of survival, for the rain of ash and pumice, mixed with lithics, that descended for several hours was not necessarily lethal. It is clear that many, like the elder Pliny, thought their best chance was to take shelter and weather the storm.

It was not until around midnight that the first pyroclastic surges and flows occurred, caused by the progressive collapse of the eruptive column, and these meant certain death for the people of the region. (A pyroclastic flow is a ground-hugging avalanche of hot ash, pumice, rock fragments and volcanic gas, which rushes down the side of a volcano as fast as 100 km/hour or more.)

The hundreds of refugees sheltering in the vaulted arcades at the seaside in Herculaneum, clutching their jewellery and money, met their end swiftly - from the intense heat of the first surge that reached the city.

Subsequent waves reached Pompeii, asphyxiating those who had survived the fall of 3m (10ft) of pumice, and were fleeing across the open in the dark, or hiding beneath roofs. The waves that followed smashed flat the upper floors of houses, and left the corpses encased in successive blankets of gaseous surge and pumice fall.

It is impossible to tell what proportion of the inhabitants died, but the Romans were accustomed to losses mounting to tens of thousands in battle, and even they regarded this catastrophe as exceptional. The corpses found by archaeologists in Pompeii or Herculaneum should be regarded as only a small sample: the destruction encompassed the entire landscape south of Vesuvius to the Sorrentine peninsular. As many died in the countryside or at sea as in the cities. Even as far north as Misenum, the ash lay deep in drifts.

After the eruption

The effect of the eruption was evidently totally traumatic, as is shown by the failure to reoccupy the sites of the cities destroyed. It was normal practice to rebuild the cities of this region after even the most massive earthquakes; but neither Herculaneum nor Pompeii was reoccupied.



Plaster cast of a victim killed by the Mount Vesuvius eruption ©

Instead, the site of Pompeii was riddled with tunnels by explorers, not by modern explorers as is often imagined, but by the Romans themselves after the eruption. Room after room of the city's buildings had holes hacked through the walls by tunnellers, and though Pompeii has richer finds than any other Roman site, it is a city already extensively sacked by looters.

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The cities on the north of the Bay swiftly recovered, and Puteoli continued to be a significant commercial centre. The

Bay of Naples continued to attract rich holidaymakers, but never again regained the massive levels of popularity of the two centuries before the disaster, the time when it had been the playground of many rich senators and emperors.

It was not until the 18th century, when Naples flourished under the Bourbon kings, that the villas of the rich courtiers and ambassadors of that time brought a new flowering to the region. It was at this period that the aristocrats of Europe, as they progressed on their Grand Tours, made the Bay of Naples and its hidden Roman treasures a focus of international fascination.

Find out more

Books

Houses and Society in Pompeii and Herculaneum by A Wallace-Hadrill (Princeton University Press, 1994)

Unpeeling Pompeii edited by J Berry (Electa, 1998)

Pompeii: Guide to the Lost City by SC Nappo (Weidenfeld & Nicolson, 1998)

About the author

Andrew Wallace-Hadrill is Professor of Classics at the University of Reading. He is currently on secondment as the Director of the British School at Rome. His publications include *Suetonius: The Scholar and his Caesars*, *Augustan Rome*, and *Houses and Society in Pompeii and Herculaneum*.