



SOCIETÀ REGIA LONDINESE
GUILIELMO SIMILIONI
BALN-ORDI-FOUES-
D - D - D -
MDCCCXXXIX



Vesuvius, AD 79

Vesuvius is altogether more vicious than Stromboli, and is not to be viewed at close quarters when it erupts. The famous eruption in AD 79 was perhaps the most violent and destructive ever described in Europe. It was also one of the most useful because it preserved part of the Roman world for posterity; and recent research has thrown new light on the terrible fate of the victims. Pliny the Younger's account of the catastrophe is a masterpiece.

Emperor Titus.

More than his wont, fearsome Vesuvius has erupted glowing rivers from his mouths, he has shaken the rocks, and has filled the nearby city with ruins and all the lands around it. The hapless people are still fleeing, but those that the fire has spared are now laid low in penury. Let this gold help repair the distress of all these victims. This, Romans, is the kind of Temple that I would wish.

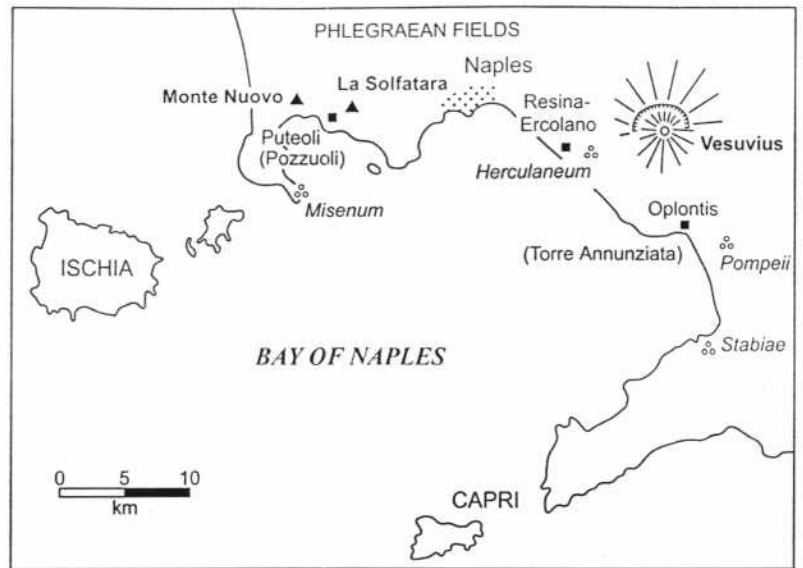
Libretto by P. Metastasio and C. Mazzola for W. A. Mozart, La Clemenza di Tito, Act I, scene iv

A Glorious Setting

Vesuvius is the most glamorous volcano in the world. Few volcanoes have been painted and photographed so often, or stand in such a beautiful position; none has made such a wonderful contribution to history; and only its Sicilian rival, Etna, has a longer recorded biography. But Vesuvius far outstrips Etna in violence, for it is the nastiest active volcano in Europe. That sleek and graceful cone adding such distinction to the Bay of Naples is a lethal volcano, with a history of violent outbursts stretching back many thousands of years. A famous Italian proverb suggests that there is no need even to try and find a more beautiful landscape than the Bay of Naples: 'Vedi Napoli, e poi muori' ('See Naples and die'). And Vesuvius has always added a shudder of apprehension to the scene . . .

Vesuvius has had at least 200 powerful eruptions during the past 2,000 years. Time after time, crops, farms, vineyards, houses, hamlets, and even cities have been destroyed, and thousands of people have perished. The volcano stayed quite calm in the Middle Ages, but awoke with a huge and sudden outburst in 1631. From then on, until 1944, Vesuvius was in almost continuous activity; its mightier spasms made everyone in the district seek protection from a favourite saint and drove sinners rushing to confession.

Eruptions of Vesuvius, from *Campi Phlegraei*, 1779.



The location of Vesuvius.

Vesuvius has always been rather lucky in those who have written about it. Pliny the Younger gave it immortality in the classical world; and Sir William Hamilton, grandson of the third Duke of Hamilton and British Ambassador to the Kingdom of Naples, produced *Campi Phlegraei*, the most beautiful book ever written on volcanoes. He also described the eruptions of Vesuvius during the last thirty years of the eighteenth century in perceptive detail in a series of letters to the Royal Society of London.

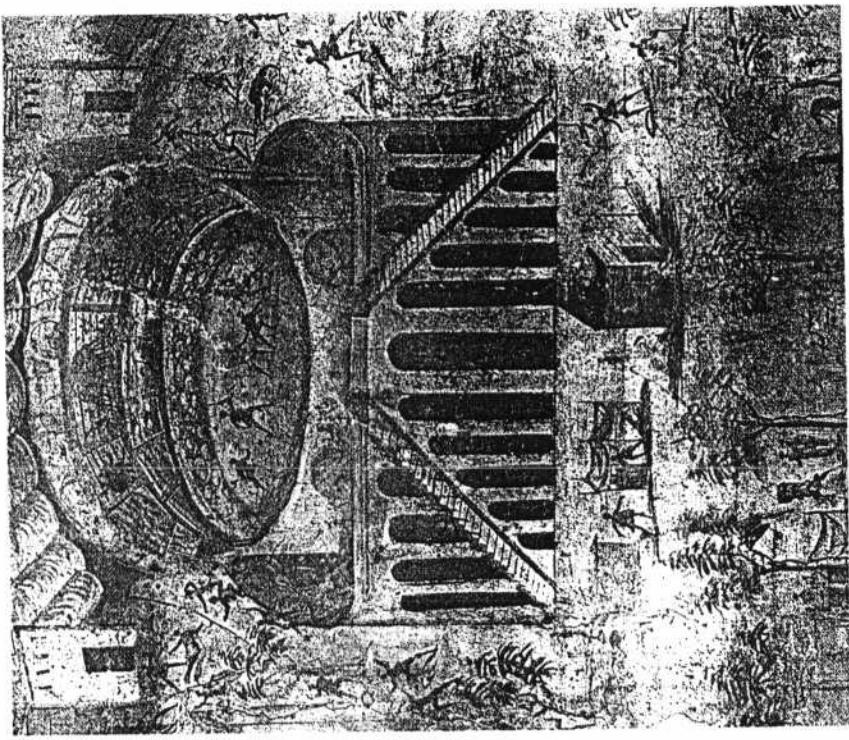
But by far the grandest of all the eruptions of Vesuvius in the past 3,000 years took place in August, AD 79, when Pompeii, Herculaneum and many other smaller settlements around the volcano were buried under a thick blanket of pumice and ash. There they remained for 1,700 years or more. Paradoxically, their volcanic destruction caused their archaeological preservation. Burial meant immortality, for the towns and their contents were – and are still being – excavated. They form some of the world's richest and largest archaeological sites, where Imperial Roman culture has been laid bare.

This invaluable catastrophe was described a few years later by Pliny the Younger in two letters to his friend, the historian Tacitus. In comparison to all the other descriptions of eruptions in antiquity, which vary from tantalizingly brief to poetic or plain crazy, Pliny's account stands out like a beacon of clarity and accuracy. It was not just a good story. As he told Tacitus, 'I have described in detail every incident which I either witnessed myself, or heard about immediately after the event, when the reports were most likely to be accurate'. Pliny never mentioned Pompeii and Herculaneum in his letters because he stayed in and around Misenum, 32km to the west, during the catastrophe. But, although he was only 17 years old at the time, he has proved a very reliable witness – and few eruptions have been favoured with such an intelligent observer.

Pliny the Younger was an aristocrat. Aristocrats, of course, did not live in small towns like Pompeii. They had spacious summer villas out to the west in delightful surroundings along the shores of the Bay of Naples, 'where the winter is sweet, and the summer fresh'. The Pliny family lived right out at Cape Misenum, overlooking the naval base, not far from the mansion once owned by Julius Caesar. The head of the family, Gaius Plinius Secundus, Pliny the Elder (AD 23–79), was not only Commander of the Roman Fleet, but also one of the foremost intellectuals of his time and the author of a famous *Natural History*. At the time he was fifty-six, rather overweight, and starting to suffer from breathlessness. His sister was also spending the summer in Misenum, together with her son, Gaius Plinius Caecilius Secundus, Pliny the Younger (AD 62–113). His uncle had just adopted him and taken charge of his education. To occupy the young Pliny's summer leisure, his uncle had set him plenty of work on Livy's *History of Rome*. History, of course, was right on their doorstep – in more ways than one . . .



Portrait of Sir
William Hamilton by
David Allan, 1775.

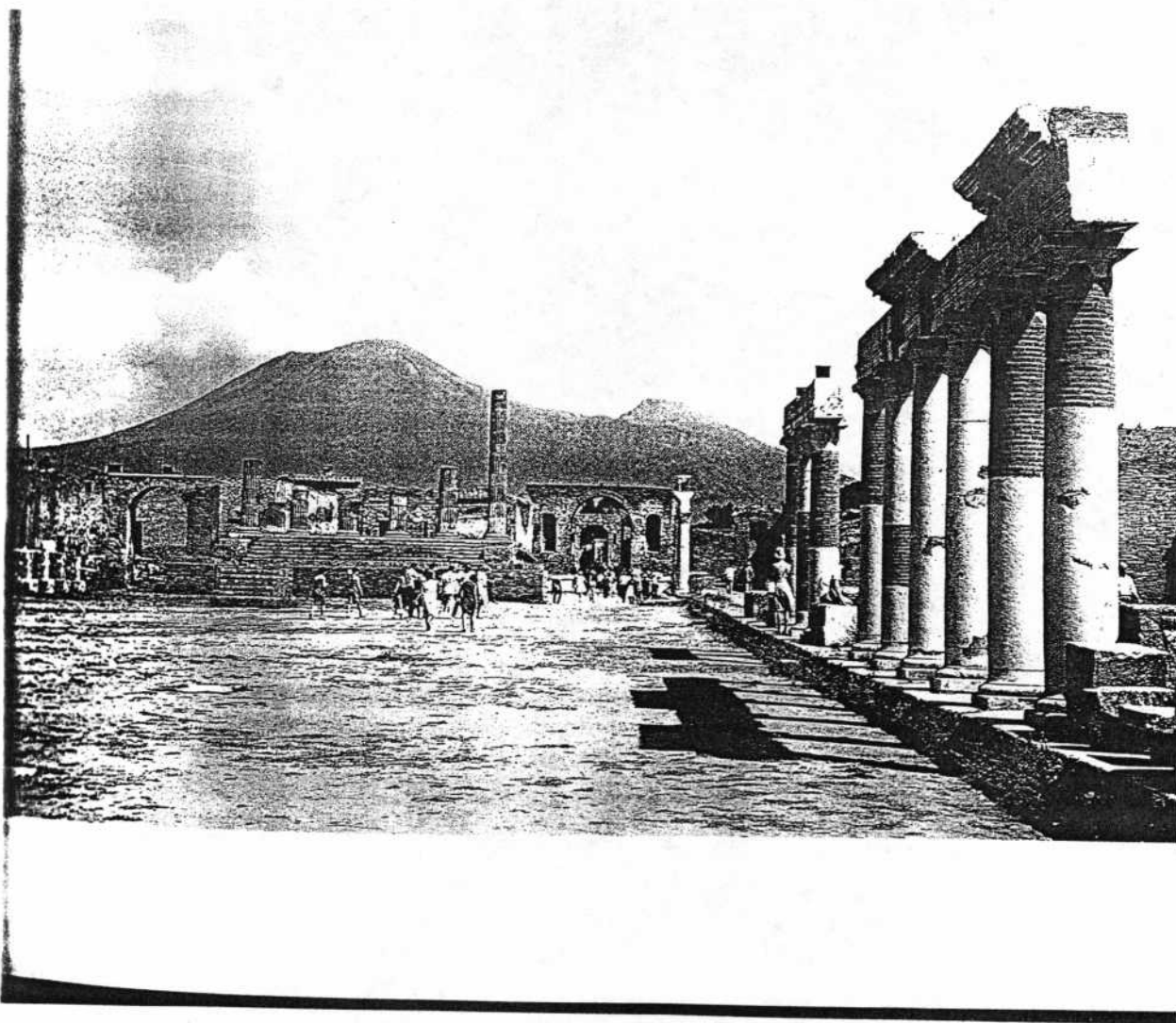


Pompeian frescoes: (*above*)
A Fight in the Amphitheatre
and (*right*) Terentius Neo,
the baker, and his wife.

In AD 79, the Roman Empire was looking forward to continued stability. Memories were beginning to fade of the antics of the Emperor Nero, who had died in AD 68. In AD 69 there had been civil chaos and no fewer than four emperors, Luckily the fourth, Vespasian, had brought peace and prosperity. Vespasian had died on 23 June, AD 79. His son, the new Emperor Titus, seemed to be quite as sensible and able. After all, he had renounced his beloved Jewish princess, Berenice, for reasons of state. Titus himself probably visited Herculaneum about a month before the eruption, and may also have gone on to inspect the fleet under Pliny the Elder at Misenum. In August, AD 79, prospects were also looking rather better in the district. A great earthquake in AD 62 had ravaged much of the area around the Bay of Naples, but, little by little, the more important buildings were being repaired. Nobody had the slightest idea that Vesuvius was soon going to change all that.

At that time, the chief centre in the region was Neapolis (Naples), with a population of about 50,000. Pompeii lay 10km south-east of Vesuvius. It was a busy town covering an area of 1,500m by 1,000m and had a population of about 20,000. The streets were laid out in the usual grid pattern, and its main

Vesuvius, from the Forum at Pompeii.



arteries were 8.5m wide, well drained and well paved with black lava slabs and high pavements.

Pompeii had all that a vibrant Roman provincial town might hope for: temples, taverns, tanneries, textile workshops, bakeries, banks, pubs, cabarets, cabinet-makers, groceries, greengroceries, fishmongers, drapers, flour-millers, schools, markets, jewellers, laundries, two theatres, an amphitheatre seating 12,000 spectators, a gymnasium, public baths, public toilets, and several brothels tastefully decorated with helpful murals.

Like present-day Naples, Pompeii was a town of public, as well as private, passions. The municipal elections of AD 79 had brought forth a mass of inscriptions and graffiti. Twenty years earlier, a contest between gladiators from Pompeii and nearby Nocera had caused a battle royal between their supporters that resulted in many deaths and injuries. It was 'characteristic', sneered Tacitus, 'of these disorderly country towns'.

Many of these boisterous and passionate souls lived in brick, one- or two-storey houses, often built around courtyards. Some were sumptuous dwellings, with marble colonnades, gardens, fountains, statues and mosaics. The House of the Faun, for instance, had a fabulous mosaic of Darius and Alexander at the Battle of Issos in 333 BC. Many houses, too, were decorated with wall-paintings of mythological and rural scenes as well as portraits. One of the finest portraits to survive is that of the baker, Terentius Neo, and his wife, who now stare rather apprehensively out at their admirers in the Naples museum. But some of the wealthier citizens must have left the town after the earthquake in AD 62. Some ruined buildings had been abandoned or shored up. One mansion had been turned into a tavern run by a freed slave called Sextus Pompeius Amaranthus. Some of the poorer ruined houses had been knocked down altogether and transformed into orchards and market gardens, growing cherries, almonds, peaches, cabbages, onions, beans, chick peas, walnuts and hazelnuts. There were pigs and poultry too. The main public open space in Pompeii was the Forum, 142m long and 38m wide, bordered by impressive temples and marble colonnades. Here the Pompeiians could talk untroubled by noisy chariots rumbling over the lava-paved streets. From time to time, they might also have glanced up beyond the Temple of Jupiter, ruined in AD 62, towards the cone of Vesuvius, standing 10km away, alone on the northern horizon.

There was an even better view of Vesuvius from Herculaneum, for this prosperous seaside town stood on a low headland, 20m above the beach, and only 7km due west of the mountain. Legend has it that Hercules himself had founded the town, and, like Naples, it had certainly been a Greek settlement. It was much smaller than Pompeii, with a population of about 5,000, although it had similar urban facilities. Overall, Herculaneum concentrated on craft industries such as marble-working, mosaic-making, spinning and weaving as well as some fishing. Its villas and public buildings were at least as rich as those in Pompeii. Here Julius Caesar's father-in-law had lived in a house that, in AD 79, contained a fabulous collection of Egyptian papyri. Another house contained a room with a cross, and may have been used by a Christian converted

by the Apostle Paul when he had landed at nearby Puteoli (Pozzuoli) in AD 61. A more surprising relic is a graffito, found in the lavatory of the House of the Gem, revealing that Apollinaris, the Emperor's doctor, had had a very satisfactory bowel motion during his visit a month before the eruption.

There were many other settlements around Vesuvius at that time, including Oplontis, near the present town of Torre Annunziata, and Stabiae, near Castellammare. Opulent villas, farms and vineyards also covered the fertile lower slopes of Vesuvius. Although nobody then realized it, the settlements within a 15km radius of the summit were built on volcanic rocks that Vesuvius had erupted in the distant past. They were all soon to be its victims.

Of all the settlements that Vesuvius buried beneath its blanket of ash and pumice, only Pompeii and part of Herculaneum have been extensively excavated. Many Roman settlements have not even been found, and little, apart from a few villas, has been dug up at Stabiae or Oplontis. Vesuvius is still clutching most of its victims and hiding their archaeological treasures.

Reawakening, AD 62–79

In AD 79, Vesuvius had been calm for many centuries, although some scholars recognized that it was a volcano. Strabo (64 BC–AD 25), the Greek geographer, described Vesuvius:

surrounded by beautiful farmlands and dwellings . . . A considerable part of the summit is flat, but all of it is unfruitful, and looks ash-coloured. Its rocks are soot-coloured, with holes like pores, so that they look as if they had been eaten by fire. Thus it can be inferred that this district was on fire in former times and had craters of fire which were quenched only when the fuel supply gave out.

The first inkling that Vesuvius might be about to spring into life came when a large earthquake rocked the area around the back Bay of Naples on 5 February, AD 62. The destruction in Naples was slight, but many buildings were thrown down nearer Vesuvius, especially in Pompeii. The aftershocks continued for several days; repairs continued for several years. When Pompeii was buried seventeen years later, the public buildings had been restored and the Forum had regained its former majesty, but parts of many private houses had not always been rebuilt. In AD 64, the Emperor Nero, artist and fiend, had just delighted his dutiful subjects with his lyrical debut in the theatre in Naples, when another earthquake threw the building to the ground. Nero took it as a mark of Divine respect that none of the spectators had been killed. Other, smaller earthquakes may have shaken the ground during the early months of AD 79, but there was no reason – then – to suppose that the earthquakes could be indicating that molten rock was making its way towards the surface of the earth. There had, after all, been plenty of earthquakes before, and none had ever caused an eruption so far as anybody knew.

Morning, 24 August, AD 79

There were more earthquakes for several days before the eruption started. People shuddered in a moment of fear, and then shrugged their shoulders and went about their business when they saw that they were safe. These frequent tremors were only a small price to pay for living in one of the most dazzling areas in the whole Empire. Nobody could have imagined that one of the most violent volcanic eruptions in Europe during the past 3,000 years was about to shatter the calm of that idyllic place.

It all began on the morning of 24 August, when noisy explosions showered the slopes of Vesuvius with fine ash. Sir William Hamilton gave some idea of what it might have been like when he described the start of a very much smaller eruption of Vesuvius on 19 October 1767.

I heard a violent noise within the mountain . . . [it] split . . . and, with much noise . . . a fountain of liquid fire shot up . . . in an instant, clouds of black smoke and ashes caused almost total darkness: the explosions . . . were louder than any thunder I ever heard, and the smell of sulphur was offensive . . . My guide, alarmed, took to his heels; and I must confess that I was not at my ease. I followed close, and we ran near three miles [4.5km] without stopping, as the Earth continued to shake beneath our feet . . . I thought it prudent to leave the mountain, and return to my villa, where I found my family in a great alarm at the continual and violent explosions . . . which shook our house to its very foundations.

This was just an opening gambit in AD 79. The eruption was to get far, far worse. Soon.

In the first of his two letters to Tacitus, Pliny the Younger described how they first saw the beginning of the violent phase of the eruption that lunchtime, from a distance of 32km:

My uncle was at Misenum in command of the fleet. On 24 August, about one in the afternoon, my mother pointed out a cloud with an odd size and appearance that had just formed . . . From that distance it was not even clear from which mountain the cloud was rising – although it was found afterwards to be Vesuvius. The cloud could best be described as more like an umbrella pine than any other tree, because it rose high up in a kind of trunk and then divided into branches . . . Sometimes it looked light-coloured, sometimes it looked mottled and dirty with the earth and ash it had carried up. Like a true scholar, my uncle saw at once that it deserved closer study and ordered a boat to be prepared. He said that I could go with him, but I chose to continue my studies.

Pliny the Younger's decision might have saved his life. It also suggests that he was more intellectual than adventurous – or perhaps he was just afraid, for the enormous column of gas and ash must soon have been roaring 25km into the sky.

Pliny the Elder's Journey to Stabiae, 24 August, AD 79

Just as [Pliny the Elder] was leaving the house, he was handed a message from Rectina, the wife of Tascus, whose home was at the foot of the mountain and who had no way of escape except by boat. She was terrified by the threatening danger and begged him to rescue her.

This was Rectina's fatal mistake. She would have been well advised to leave home with her messenger. He reached the safety of Misenum. She almost certainly died during the eruption.

He changed plan at once and what he had started in a spirit of scientific curiosity, he ended as a hero. He ordered the large galleys [quadriremes] to be launched and set sail [probably about 2 p.m.]. He steered bravely straight for the danger zone, which everyone else was leaving in fear and haste, but he still kept on noting his observations.

The quadriremes, for all the muscle-power of their unfortunate oarsmen, could not move faster than 15km an hour. They would travel much more slowly as soon as they entered the 'danger zone' where hot ash was blowing southwards from Vesuvius. Pliny the Elder, therefore, would probably take about three hours to approach the coast near Oplontis, some 28km from Misenum. Pliny the Younger continues:

The ash that was already falling became hotter and thicker as the ships approached the coast, and it was soon superseded by pumice and blackened burnt stones shattered by the fire. Suddenly the sea shallowed where the shore was obstructed and choked by debris [floating pumice] from the mountain. He wondered whether to turn back as the Captain advised, but decided instead to go on. 'Fortune favours the brave,' he said; 'take me to Pomponianus'. Pomponianus lived at Stabiae across the Bay of Naples [17km from Vesuvius and 8km from Oplontis]. It was not yet in danger, but would be threatened if the danger were to spread. In fact, Pomponianus had already put his belongings into a boat to escape as soon as the contrary, onshore wind changed. This wind, of course, was fully in my uncle's favour and quickly brought his boat to Stabiae [probably about 6 p.m.]. My uncle calmed and encouraged his terrified friend and . . . was cheerful, or at least pretended to be, which was just as brave.

Meanwhile, tall, broad flames blazed from several places on Vesuvius and glared out through the darkness of the night. My uncle soothed the fears of his companions by saying that they were nothing more than fires left by the terrified peasants, or empty abandoned houses that were blazing. He went to bed and apparently fell asleep, for his loud, heavy breathing was heard by those passing his door.

Meanwhile Pliny the Elder's sister and nephew had dined and started to sleep fitfully at Misenum. There was no such rest at Pompeii and Herculaneum.

Pompeii, Afternoon and Evening, 24 August AD, 79

Pompeii was in the very eye of the storm, where hot ash and pumice, blown by the northwesterly wind, were showering down most thickly. It was soon accumulating at a rate of 12–15cm an hour, and roofs were starting to collapse under the weight. It was pitch dark. The ground was shaking. A fearful rumbling was coming from Vesuvius. The Pompeians faced a daunting choice. They could shelter in their cellars or in well-closed rooms until the eruption abated. Or, they could gather up some of their more valuable possessions and struggle to safety through the hot and suffocating ash and pumice that was already a metre deep in the streets and was still falling as thickly as before. But which way should they run?

Sir William Hamilton described what happened when a mere 2.5cm of ash fell on Naples between 19 and 22 October 1767:

The confusion at Naples cannot be described . . . the churches were opened and filled, the streets were thronged with processions of saints . . . [and] various ceremonies were performed to quell the fury of the turbulent mountain . . . the prisoners in the publick jail attempted to escape . . . but were prevented by the troops. The mob set fire to the Cardinal-Archbishop's gate because he refused to bring out the relicks of Saint Januarius [San Gennaro, the patron saint and protector of the city] . . . The oldest men declared they had never heard the like, and, indeed, it was very alarming; we were in expectation every moment of some dire calamity.

The Pompeians can hardly have been any calmer, since much more ash and pumice had been showering upon them all afternoon. But, given the horror of the situation, the thickly falling ash could have been a blessing in disguise. As it turned out, those who panicked at once and fled probably survived. If they had the luck to run southwards, or took a boat westwards, they gave themselves the best chances of escaping. The baker, Modestus, was one of those who did not apparently hesitate for long. He decamped, leaving eighty-one loaves in his oven, where they remained, overcooked, for more than 1,800 years. Perhaps three-quarters of the population of Pompeii took their chance and left while they could, on the afternoon of 24 August.

Those who hesitated were lost. The situation got worse. After 8 p.m. the eruption became still more violent. Amidst the ash, fist-sized chunks of grey pumice began to clatter and thud down onto the city. An indication of what Pompeii suffered can be gained from Sir William Hamilton's description of the effects of a small pumice fall on Ottaviano in August 1779.

During the tempestuous fall of ashes . . . and stones . . . the inhabitants dared not stir out – even with the vain protection of pillows, tables, winecasks etc. on their heads. Driven back, wounded or terrified, they retreated to cellars and arches, half stifled with heat and dust and sulphur . . . Through 25 minutes this horror lasted, then suddenly ceased, and the people took the opportunity of quitting the country, after leaving the sick and bed-ridden in the churches.

Twenty-five minutes! At Pompeii, the infernal deluge lasted for eighteen hours . . .

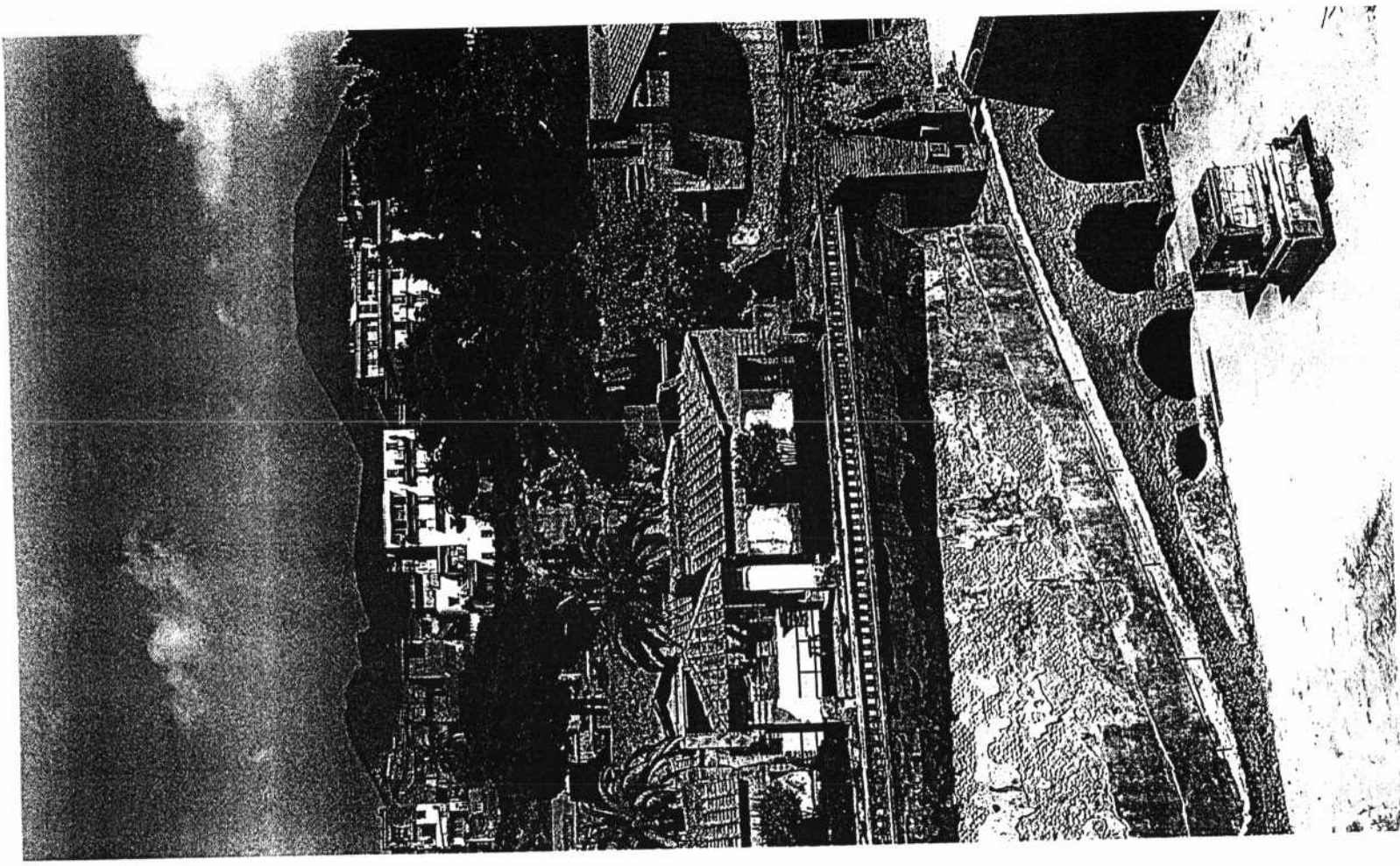
Herculaneum, 24–25 August, AD 79

The Pompeiians could not even see what was going on. The people of Herculaneum could see only too well. At first, theirs was a visual terror. The citizens watched the billowing column rise, roaring, over 33km into the sky above the crater of Vesuvius. After nightfall on 24 August, the red-hot ash and pumice in the column glowed menacingly and lightning flashed and crackled. But Herculaneum was lucky to be lying upwind, so that less than a centimetre of ash sprinkled the town. The terrified citizens realized that salvation lay to the west, across the Bay, and they made for the boats. Many fled past Pliny the Elder as his quadriremes tried, in vain, to approach the pumice-choked coast. Hundreds might have reached safety in Naples, and settled in what became known as the Herculaneum quarter.

By midnight, scarcely a dozen people remained in the town itself, and there were no stragglers in the streets. But several hundred people were still waiting to embark from the shore. They had assembled near the brand-new suburban baths, in front of the large arches beneath the Sacred Area along the coast. This is where they died.

At about 1 a.m. on 25 August, the column rising from Vesuvius lost its vertical impetus for a moment. Its lower part collapsed like a crumbling pillar of fire and formed a nuée ardente of hot gas, glowing dust, ash and pumice that swept down the western flanks of Vesuvius at a speed of well over 100km an hour. Straight onto Herculaneum. No one could escape. In less than four minutes, the hot and lethal cloud engulfed the town, sweeping between the houses, ripping off roofs and balconies, and surging fastest of all down the streets leading to the sea.

The people waiting anxiously on the shore would not have seen the nuée ardente until the very last moment. When it suddenly fell upon them, they turned and clustered desperately under the arches, crowding as far inside as possible. They died in the space of a few choking breaths, huddled together, sometimes embracing their loved ones, always striving to protect their faces with their hands. They died burnt and suffocated. About an hour later, a faster, hotter and much bigger nuée ardente surged over the pathetic remnants of



The excavated old shore at Herculaneum, with Vesuvius in the distance.

the town, carbonized the woodwork, smashed down all the surviving upper storeys, dumped the rubble on the beach and boiled the sea. Four more *nuées ardentes* were to sweep over the town within the next eight hours, but by then there was hardly anything left to destroy. The hot clouds penetrated every nook and cranny of Herculaneum, sealing the town in a fuming blanket, 20m thick and adding a strip of new land, 400m wide, to the coast.

The hundreds of victims who died on the shore were not unearthed until 1982. Many more may be discovered when the excavations are extended along the coast. Only a few bodies had ever previously been found in the town itself. A man and a woman had died together in the men's baths. Two men who were probably sick had been left in their beds. A boy was lying on his bed in the House of the Gem-Cutter, and a baby had been abandoned in its cradle in the House of the Gem. Perhaps they had died from other causes before their parents left them when the eruption started? Their parents could well be amongst the skeletons found on the shore.

Stabiae, 25 August, AD 79

As Herculaneum was being removed from the face of the earth, in Stabiae, Pomponianus and his servants were wide awake, watching the situation getting worse and worse as the night went on, and Pliny the Elder was still snoring away. As Pliny the Younger reported,

eventually the courtyard outside began to fill with so much ash and pumice that, if he had stayed in his room, he would never have been able to get out. He was awakened and joined Pomponianus and his servants... They wondered whether to stay indoors or go out into the open, because the buildings were now swaying back and forth and shaking with more violent tremors. Outside, there was the danger from the falling pumice, even if it was only light and porous. After weighing up the risks, they chose the open country and... tied pillows over their heads with cloths for protection. [The pumice must have already been about a metre deep in Stabiae by then.]

It was daylight everywhere else by this time, but they were still enveloped in a darkness that was blacker and denser than any night, and they were forced to light their torches and lamps.

Even as the eruption gained momentum at Stabiae, Pliny the Elder kept his composure better than his companions.

My uncle went down to the shore to see if there was any chance of escape by sea, but the waves were still running far too high. He lay down to rest on a sheet and called for drinks of cold water. Then, suddenly, flames and a strong smell of sulphur, giving warning of yet more flames to come, forced the others to flee. He himself stood up, with the support of two slaves, and then suddenly

collapsed and died, because, I imagine, he was suffocated when the dense fumes choked him.

Pliny the Elder may have had a heart attack brought on by his exertions in the stifling atmosphere, or he may have been asphyxiated by hot ash and dust, or, indeed, may even have been poisoned by erupted toxic gases such as hydrogen sulphide. Whatever the cause of his death, by the early morning of 25 August, Vesuvius had claimed its most distinguished victim. His nephew ended his first letter to Tacitus with the discovery of his uncle's body . . .

When daylight returned on the following day, his body was found intact and uninjured, still fully clothed and looking more like a man asleep than dead.

Pliny the Elder had been killed by the largest of all the nuées ardentes that Vesuvius erupted during those two days. It was, in fact, the sixth nuée that erupted in all, and there were several more to come. It spread 17km southwards to Stabiae and also surged 32km across the Bay of Naples to Misenum, where its leading edges almost reached, and could well have killed, Pliny the Younger and his mother.

Misenum, 25 August, AD 79

Pliny the Younger and his mother had stayed in Misenum throughout the afternoon of 24 August. Their own nightmare was about to begin.

After my uncle left us, I studied . . . dined, and went to bed, but slept only fitfully. We had had earth tremors for several days, which were not especially alarming because they happen so often in Campania. But, that night, they were so violent that everything felt as if it were being shaken and turned over. My mother came hurrying to my room . . . and we sat together in the forecourt facing the sea nearby. I don't know whether to call it courage or folly on my part (I was only 17 at the time), but I called for a volume of Livy and went on reading as if I had nothing else to do. I even went on making the extracts that I had started.

No ash apparently fell on Misenum that night, because the naval base was well upwind of Vesuvius. But, when dawn broke, the daylight was only faint and the ground beneath Misenum was starting to shake violently.

The buildings around were already tottering and we would have been in danger in our confined space if our house had collapsed. This made us decide to leave town. We were followed and hurried along by a panic-stricken crowd who chose to follow someone else's judgment rather than decide anything for themselves. We stopped once we were out of town [on the Monte di Procida hill above Misenum]. Then some extraordinary and alarming things happened. The car-

riages we had ordered began to lurch to and fro although the ground was flat, and we could not keep them still, even when we wedged their wheels with stones. Then we saw the sea sucked back, apparently by an earthquake, and many sea-creatures were left stranded on the dry sand.

The sea probably withdrew during the first stages of a tsunami, or volcanic sea-wave – a smaller-scale version of those at Krakatau in 1883. Such a wave would soon have crashed inland again. (During the eruption of Vesuvius in 1631, the level of the Bay of Naples dropped by 3m for ten minutes before a wave nearly 5m high broke over the shore.) But, Pliny the Younger's attention was distracted by an even more pressing danger: the huge (sixth) *nuée ardente* erupted by about 8 a.m. on 25 August. Unbeknown to him, this was the cloud that killed his uncle at Stabiae.

From the other direction, over the land, a dreadful black cloud was torn by gushing, twisting, flames [glowing, red-hot ash], and great tongues of fire like much-magnified lightning... The cloud sank down soon afterwards and covered the sea, hiding Capri and Cape Misenum from sight. My mother begged me – and even commanded me – to leave her and escape as best I could. She said that a young man might be able to escape, whereas she was old and slow, but she could die in peace provided that she knew that she had not caused my own death as well. But I told her that I would not save myself without her. I took her hand and made her hurry along with me. Ash was already falling by now, but not very thickly. Then I turned round and saw the thick black cloud advancing over the land behind us like a flood. 'Let us leave the road whilst we can still see,' I said, 'or we will be knocked down and trampled by the crowd.' We had hardly sat down to rest when the darkness fell upon us. But it was not the darkness of a moonless, or cloudy night, but just as if all the lamps had been put out in a completely closed room.

We could hear women shrieking, children crying, and men shouting. Some were calling for their parents, for their children, or for their wives, and trying to recognize them by their voices... Some people prayed for death because they were so frightened of dying. Many begged for the help of the gods, but even more imagined that there were no gods left and that the last eternal night had fallen on the world.

The people of Misenum were obviously so terrified that they had abandoned all hope, as if they had entered Hell. And they were 32km from the volcano. Their terror makes it all the harder to imagine the agony of the Pompeians. Even at Misenum rumours made things no better.

There were also those who added to our real perils by inventing fictitious dangers. Some claimed that part of Misenum had collapsed, or that another part was on fire. It was untrue, but they could always find somebody to believe them.

A glimmer of light returned, but we took this to be a warning of approaching fire rather than daylight. But the fires stayed some distance away. The darkness came back and ash began to fall again, this time in heavier showers. We had to get up from time to time to shake it off or we would have been crushed and buried under its weight. I could boast that I never expressed any fear at this time, but I was only kept going by the consolation that the whole world was perishing with me.

After a while, the darkness paled into smoke or cloud, and the real daylight returned, but the sun was still shining as wanly as during an eclipse. We were amazed by what we saw because everything had changed and was buried deep in ash like snow. We went back to Misenum, attended to our physical needs as best we could, and spent an anxious night [25–26 August] switching between hope and fear. Fear was uppermost because the earth tremors were still continuing and the hysterics still kept on making their alarming forecasts . . . But, by then, my mother and I had no intention of leaving the house until we got news of my uncle.

So ends the first surviving detailed account of any volcanic eruption. Pliny the Younger, his mother, and indeed all the people in Misenum were very lucky. The sixth and largest of the terrible *nuées ardentes* stopped just short of the naval base. Neither was Misenum showered with hot pumice.

The horror was far worse to the east. It is odd that the exact fate of Naples is not recorded, but the sixth *nuée ardente* must have killed many people near the harbour and in the eastern suburbs that were closest to Vesuvius.

There is no doubt about what happened to Pompeii.

Dies Irae, Pompeii, 25 August, AD 79

Dies irae dies illa

Solvat saeculum in favilla.

[The day of wrath, that day will dissolve the world in ashes]

Falling ash and pumice were burying the city. Ground-floor doors were blocked. More and more roofs were collapsing under the weight. The mistress of the splendid House of the Faun collected all her jewellery together and was then buried alive when the roof fell in on top of her. Fine, hot dust and ash swirled throughout the city, penetrating every room, however carefully it had been sealed, and entering every pair of lungs, however carefully victims tried to keep it at bay with moistened cloths. How many people suffocated? How many died of fright during that appalling night? How many took their last faint chance of making an escape? At least 2,000 people stayed on and survived this ordeal, only to succumb to something worse.

There had been total darkness in Pompeii since just after 1 p.m. on 24 August. The Pompeiians found it harder and harder to keep their oil-lamps

lit. They had no means even of telling the time. They had no way of understanding what was happening to them and could have no inkling of when – if ever – their ordeal would end. Some may have suspected that they were the victims of a great volcanic eruption. Everybody must have been filled with anguish and despair. Death must have seemed very close. The people in Pompeii were enduring the longest night of their lives. And they were never to see another dawn.

The erupting column was now soaring 33km above Vesuvius, several *nuées ardentes* had rushed down the slopes of the volcano, and Herculaneum and Oplontis had already been destroyed. Many rich villas on the flanks of Vesuvius had also been overwhelmed. They included the sumptuous house that had belonged to Poppaea Sabina, the second wife of the Emperor Nero. She had died in AD 65, after he kicked her in a fit of temper because she had complained when he returned late from a chariot-race meeting.

The first two *nuées ardentes* did not reach Pompeii. The third, at 6.30 a.m. on 25 August, stopped at its northern walls. At the same time, bigger earthquakes began to shake the city, and perhaps spurred some of those still sheltering in Pompeii to flee. But the hapless fugitives now had to struggle through 2.4m of hot ash and pumice that choked the streets and buried the ground floors of many buildings. Would it still not be better to hold on and shelter at home until the worst was over?

At 7.30 a.m. on 25 August, AD 79, all the people still sheltering in Pompeii met their destiny. The fourth *nuée ardente* swept down over the city, flattened most of the upper storeys of the buildings, ripped off the remaining rooftops, and added bricks and tiles to its fearsome armoury of red-hot ash, pumice and gases. Each element in the cloud had a way of killing – and did – but most victims were asphyxiated. They died in breathless agony, often clutching their most treasured possessions in one hand while trying desperately to stop the deadly mixture of gas, hot dust and ash, and mucus from clogging their mouths and lungs. They only suffered for about two minutes.

Those struggling in the streets may have seen the glowing cloud rushing through the pitch darkness towards them. They tried to run but were thrown down and they perished. Three families had battled downhill to the Nocera Gate when they were caught opposite the southern cemetery. A slave, bent double under a sack of provisions, collapsed. A woman died with her handkerchief stuffed into her mouth. Behind her, an old man, perhaps her father, stumbled and then expired as he struggled to raise himself onto his elbows. Two young boys, holding hands, suffocated as they tried, in vain, to protect themselves beneath a roof-tile. In the Forum, two priests were crushed when part of the colonnade was thrown down upon them. Another priest was asphyxiated in the main street as he tried to save (or make off with?) the treasure of the Temple of Isis.

Those who stayed indoors were only granted the favour of dying at home. Hundreds of people perished in barricaded rooms or cellars with their loved ones, their jewellery or their life savings. In the Diomedes villa, a family of

eighteen and their servants died with ten gold pieces and enough bread and fruit to tide them over until the eruption should end. Nine men, led by a porter carrying a lamp and two slaves protecting their heads with pillows, suffocated as they tried, at last, to leave the House of Menander. They left behind 115 items of silverware hidden in a box in the bathroom. A surgeon with his bag of instruments and an athlete clutching his bottle of body-oil perished in the exercise courtyard, the Palaestra. In one house, a forgotten, chained-up dog expired as it arched its back in one last desperate effort to break loose. In another house, a hungry dog was eating its dead master when the *nuée ardente* arrived.

Many gladiators seem to have decided to weather out the storm in their barracks. Two had no choice: they died in their chains. One gladiator died lying alongside a noble lady, bedecked with an emerald necklace, who had evidently come to pay homage to her favourite sportsman, but most of the other sixty gladiators died as lonely a death as if they had perished in the arena.

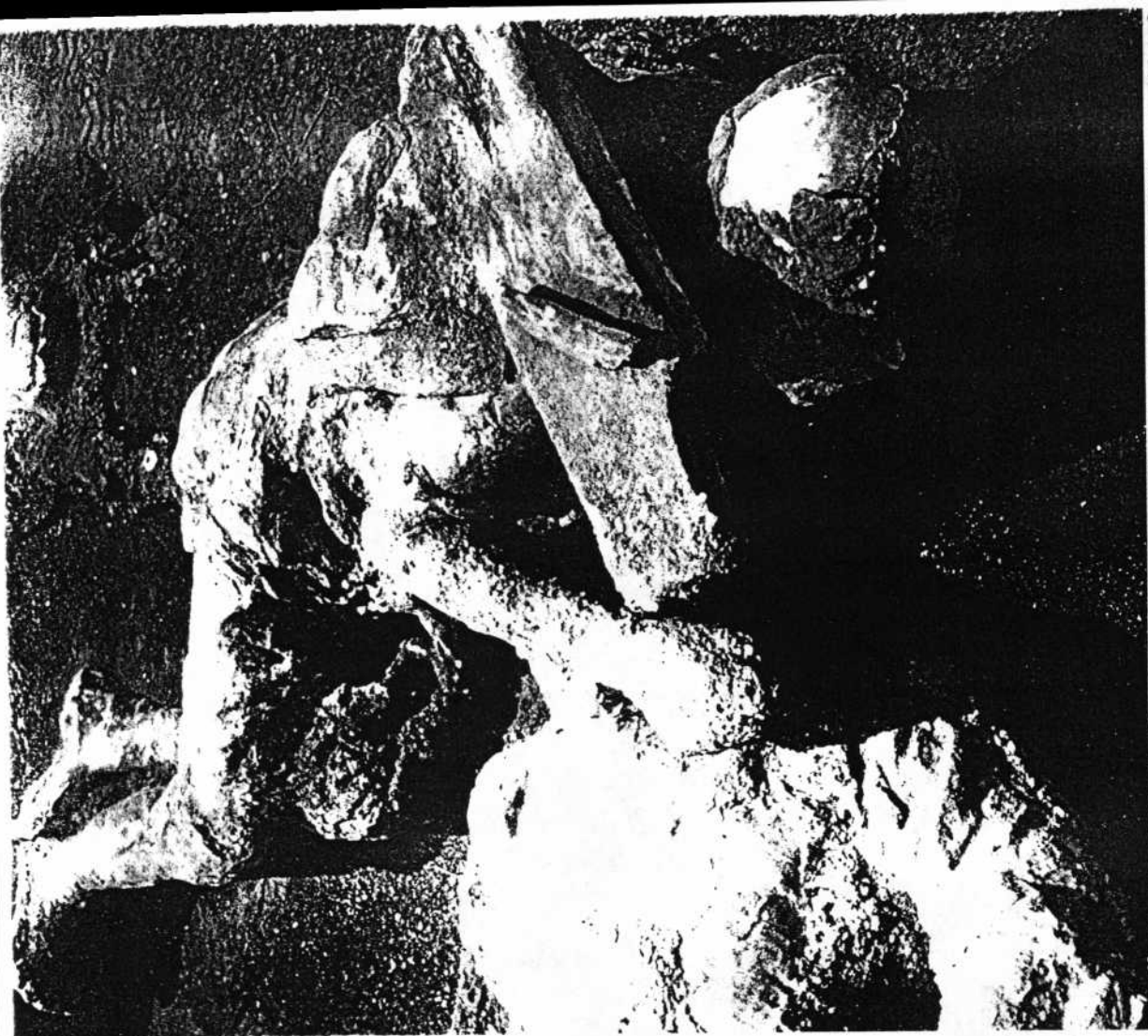
Within two or three minutes, nobody – nothing – was left alive in Pompeii. The larger fifth and sixth *nuées ardentes* swept over the city to Stabiae. Pumice and ash, and then ash alone continued to fall in the darkness and soon completely buried the city.

Aftermath, 26 August, AD 79

The eruption of Vesuvius waned on the morning of 26 August. When daylight returned, over 8km³ of fuming pumice and ash covered 300km² around Vesuvius in a grey blanket. In all that area, not a town, not a village, not a villa, not a farm, not a vineyard, not a tree, not a bush, and not a living soul was to be seen. The upper 700m of Vesuvius had vanished and a huge crater fumed in its place. The Roman Empire witnessed no other natural disaster on such a scale. (When their turn came, the Goths, Vandals and their friends worked on a different register.) The Emperor Titus appointed two eminent former Consuls to deal with the social and legal consequences of the calamity. But Titus died in AD 81 and was succeeded by his psychopathic brother, Domitian, which did not create a happy climate for public welfare.

Thus Herculaneum, Pompeii and their neighbours vanished off the face of the earth. From the archaeological point of view, the fate of these towns went far, far beyond the plight of the dying, for their whole way of life was buried, and often closely moulded by the fine ash that settled on top of them.

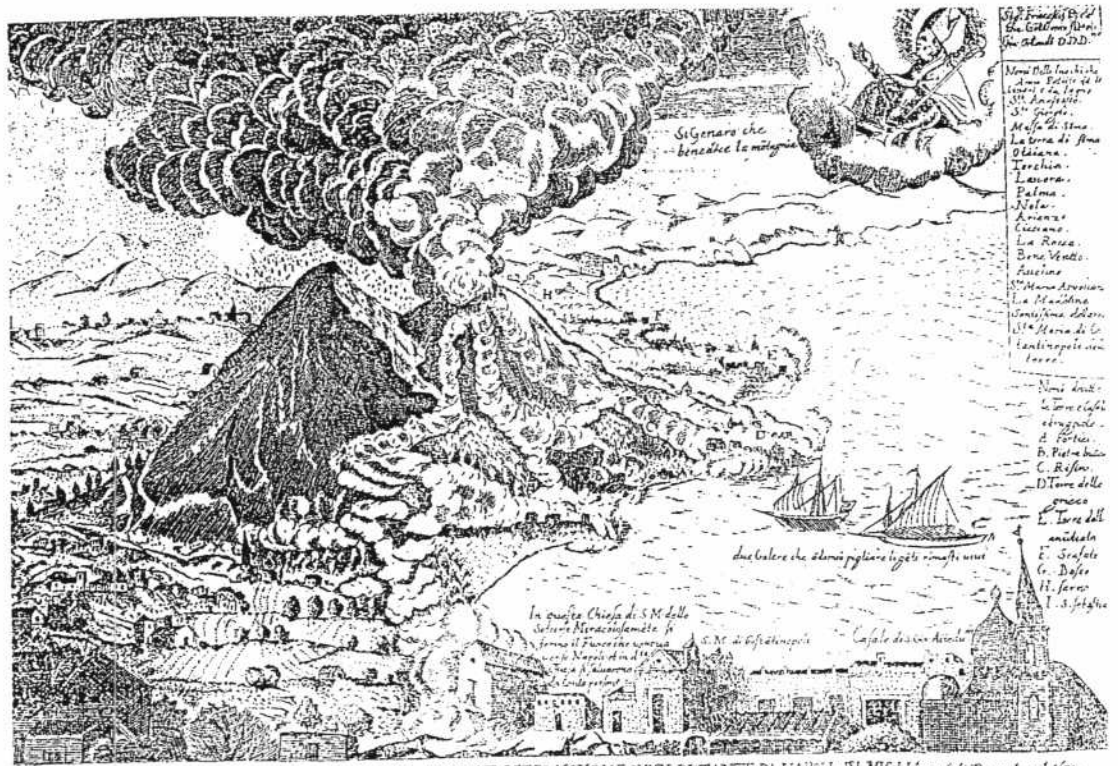
During the Middle Ages, Resina-Ercolano was built over Herculaneum, Torre Annunziata over Oplontis, and Castellammare over Stabiae. No new town grew up over buried Pompeii. But, although the abandoned spot was known as *Civitas* or *La Città*, nobody realized its real significance for a long time. In 1592 the Roman architect, Domenico Fontana, found a few old stones – and nearly found the amphitheatre, when he was cutting an old water conduit. In 1607 a stone inscribed ‘*Decurio Pompeiis*’ was discovered, which



A victim killed by flying masonry at Pompeii. 25 August AD 79.

ought to have inspired more digging. But in those days archaeology did not exist, and architects merely used old stones and old buildings as convenient quarries. During the next 150 years, odd excavations also raised statues that were sold like trinkets to decorate 'classical galleries' built by eminent aristocrats. Planned and rather more scientific excavations began under King Carlo III of Naples in 1738 at Herculaneum and in 1748 at Pompeii; others followed during the Napoleonic occupation.

Archaeological excavation really began when Giuseppe Fiorelli took charge of the site at Pompeii in 1861. It was Fiorelli who revealed the shapes of the dead. In AD 79, the fine, stiff, dry ash had encased the victims where they fell. Over the centuries, their clothing and flesh had decayed, leaving behind a hollow that was, in effect, a mould of the victims. Fiorelli hit upon the simple and brilliant idea of pouring liquid plaster of Paris into the hollows as soon as they were discovered. Once the plaster set, the encasing ash was carefully



ERO DISEGNO DELL'INCENDIO NELLA MONTAGNA DI SOMMA ALPHIMETE DETTO MONTI VESUVII DISTANTE DA NAPOLI 361 MIGLIA a 6 de Dicembre nel 1631.

Contemporary engraving of nuées ardentes descending Vesuvius in 1631.

scraped away to reveal the shape. The plaster registered the details of the last actions of the victims of the nuée ardente at 7.30 a.m. on 25 August, and even the very grimaces they had made in their death-throes. These graphic casts are far more lifelike than Egyptian mummies. It proved impossible to do the same at Herculaneum. Soon after the eruption, the town subsided by about 4m, taking the lower layers of ash into the damp below the water-table. The wet ash settled, and crushed the decaying bodies of the victims so that only their skeletons remained when they were found. But the dying panic of those on the shore could still be read in their entwined bones.

Although scientific excavations have been going on for over a century, perhaps a quarter of Pompeii, and maybe as much as two-thirds of Herculaneum have still to be revealed. Because Resina-Ercolano is built over Herculaneum, excavation is limited and often has to be done by tunnelling. Only 85m of the old shore has been excavated and many more victims probably await discovery there. Excavations are still going on at Pompeii too, where there are supplementary problems. There are now often more tourists in a day than ever thronged the streets of ancient Pompeii, with the resulting dangers of damage and litter. The city was bombed in 1944 and damaged by an earthquake in 1980. Theft and vandalism have gone on for years. Many houses are now locked for their own protection, and the keepers cannot always be bothered to open them for visitors. The result is that Pompeii now has none

of the cosy charm of Herculaneum, which has kept the Roman atmosphere much better than its more famous rival.

Vesuvius has been quiet since 1944, when it greeted the advancing Allied armies with an eruption. Experts agree that its next outburst will probably be the greatest since the devastating eruption in 1631. About a million people live in the potential danger zone. They may have to be evacuated very quickly indeed if they are to avoid the fate of the Pompeiians.

Whatever happened to Pliny the Younger? After Titus died in AD 81, Pliny survived the murderous whims of the Emperor Domitian and became a famous writer and lawyer. He later became the friend and one of the ablest administrators of the Emperor Trajan. He was elected Consul in AD 100 and was Governor of the Province of Bithynia in Asia Minor in AD 111-12. He probably died in AD 113 at the age of fifty-one.