



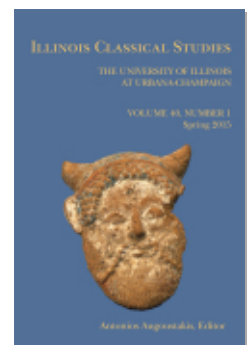
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In the Land of the Giants: Greek and Roman Discourses on Vesuvius and the Phlegraean Fields

CATHERINE CONNORS

Even before the eruption of Mount Vesuvius in 79 CE, some remarked on the area's resemblance to the known dangers of Sicily's Mount Etna. This awareness was expressed in observational accounts of Vesuvius' geology and in mythical stories that linked Vesuvius and the Phlegraean Fields with battles by Jove or Hercules against the giants. This article explores the ways in which observational and mythical accounts of Vesuvius and the Phlegraean fields can inform each other.

1. The Rocks Don't Lie

The distinctive geological features of Campania received comment in Greek and Roman mythical, literary, historical, and philosophical contexts: the Campanian landscape brings into sharp focus powerful questions about human capacities to know and control the forces that shape experience.¹ In *The Rocks Don't Lie: A Geologist Investigates Noah's Flood*, David Montgomery traces the long history of close, rational, interpretive observation and analysis of the stories rocks tell about geological change. He approaches myths not as "made up stories" but as informed and informative responses to the physical stories that rocks tell, an approach sometimes called geomythology. Adrienne Mayor, in *The First Fossil Hunters* and elsewhere, takes a similar approach to the connection between stories and observation. As Alexander von Humboldt put it in his *Cosmos: A Sketch of the Physical Description of the Universe*: "The consideration of mythical views in popular belief cannot be separated either from the geography or the history of volcanoes. The two often reciprocally illustrate each other." Ancient Greek and Roman observers knew that the visible surface of the earth

1. Collaborative work with Cindy Clendenon on classical Greek and Roman discourse about geology and geomorphology inspired my approach to this project and it is a pleasure to express my gratitude to her here. I benefited also from helpful conversations with Ashli Baker, Lissa Crofton-Sleigh, Stavros Frangoulidis, Stephen Hinds, and Laura Zientek.

tells stories of what cannot be seen: either what is hidden beneath the surface or what happened long, long ago. Greek and Roman discourse about Vesuvius offers a useful case study for what could be called a poetics of geology, that is, an analysis of how ancient writers and storytellers record perceptions of geological forms and changes over time and use those perceptions to shape the stories they in turn are telling.²

Even before the Campanian earthquake in 62 or 63 CE and the eruption of Mount Vesuvius in 79 CE,³ the sulphurous Lake Avernus, the caves at Cumae, the crater-filled landscape of the area near Pozzuoli and Cumae still known as the Phlegraean Fields, and the very fertile soil of the area near Mount Vesuvius were all read as indications of disruptions in the surface of the earth. Greek and Roman discourse about the configuration of the surface of the earth addresses the caves, chasms, disappearing lakes, and underground streams that are characteristic of what we now term karst landscapes, in which rainwater dissolves limestone, leaving various kinds of discontinuities and hollows. Ancient discussions of the surface of the earth also address volcanoes (both on earth and those that generate new islands), earthquakes, and tsunamis, and take account of remarkable substances within the earth: gold and silver ore, naphtha, bitumen, sulphur. Broadly speaking, these were all understood as related manifestations of the structure of the earth, that is, that it contained hollow spaces through or from which air or water or fire could move either gradually or violently.⁴ Perceptive observation of the surface of the earth could tell the story of what went on out of sight.

It is typically asserted that, before the eruption in 79 CE, the Romans had no suspicion of Vesuvius' dangerous potential: Sigurdsson (2002), using soil

2. Montgomery (2012), Vitaliano (1968) and (1973), Mayor (2005) 96, von Humbolt (1883) 5:266n62. Forbes (1963) 47–60 gathers ancient discussions of volcanoes; ancient literary representations of Vesuvius are usefully discussed by Sebesta (2006); Stärk (1995) offers far-reaching investigations of ancient and modern literary representations of Campania and discusses accounts of Vesuvius' destructive and beneficial qualities at 227–36. Hine (2002) stresses the possibility that popular ideas about volcanoes and earthquakes could have made their way into ancient literary and philosophical discussions of the phenomena. Virgil's descriptions of volcanic phenomena are discussed by Sullivan (1972) and Johnston (1996). On geology and myth in Sicily, see Agnesi, Di Patti, and Truden (2007). Other discussions of ancient Greek and Roman discourse about geomorphology and hydromorphology at Clendenon (2009a), (2009b), (2009c), (2010) and Connors and Clendenon (2012).

3. On the date for the earthquake, see Hine (2006) 68–72. On the eruption of 79, see Sigurdsson, Cashdollar, and Sparks (1982) and Sigurdsson, Carey, Cornell, and Piscatore (1985).

4. Aristotle (*Mete.* 2.7–8 = 365 a14–369a 9) argues that the movement of wind through underground hollows causes earthquakes. Posidonius takes a similar approach; see fr.12 Kidd (= Diog. Laert. 7.154) with the comments of Kidd (1988) 116–18.

analyses that reveal that Vesuvius' last previous eruption had been about 700 years previous to 79 CE, remarks: "it is no wonder that the Romans did not consider the mountain a threat and were probably not even aware of its volcanic character until that fateful day in A.D. 79." In a broad sense, this is true. But the ancient writers who thought the most analytically about the history rocks tell did notice distinctive features of Vesuvius and compared these features to observable features of Mount Aetna in ways that arguably express awareness of Vesuvius' volcanic, and potentially destructive, qualities. These include, as Sigurdsson also acknowledges, Vitruvius, Strabo, and Diodorus Siculus.⁵

Vitruvius, in his discussion of building materials in book 2 of *On Architecture* gives an account of the volcanic ash whose unusual properties make it an ingredient of a very strong and durable concrete.⁶ Vitruvius theorizes that this substance, now known as pozzolana from its source at Pozzuoli, is formed because underground fire and hot springs near Baiae and Vesuvius make "the earth light" (*leuem . . . terram*). In Vitruvius' view, just as lime is made by burning stone in kilns, pozzolana is formed by the earth being burned by underground fires. When pozzolana is added to sand and lime, Vitruvius notes: "Therefore, when three things formed in a similar manner by the force of fire come together in one mixture, immediately they take in water and stick together. They quickly become solid because of the moisture, and neither waves nor the force of the water can dissolve them." As evidence for this subterranean burning, Vitruvius adduces the area's hot springs and the sponge-like appearance of the distinctive stone found in the vicinity of Vesuvius, known as *spongia* ("sponge-stone") or *pumex Pompeianus* ("Pompeian pumice"), which is not found everywhere but only here, near Aetna and in a part of Mysia that the Greeks call "burnt"; "no less let it be mentioned that in ancient times conflagrations grew and became excessive under Mount Vesuvius and then spewed forth flame through the fields" (Vitr. 2.6.1–4).

Strabo too compares Vesuvius to Aetna, highlighting two qualities: the fact that the rocks near its summit have an appearance like the pores of a sponge, and that its soil produces good wine. He theorizes that at Vesuvius the flames have consumed all available fuel: the rocks near the summit "show hollows like the pores of a sponge in rocks that are the color of soot on the surface, looking as though they had been eaten by fire, with the result that one might conclude

5. Sigurdsson (2002) 32–33.

6. Unless otherwise noted, classical texts are cited from the Loeb editions: for the *Aetna*, Duff and Duff (1934); for Claudian, Platnauer (1922); for Dio Cassius, Cary and Foster (1925); for Diodorus Siculus, Oldfather (1933), (1935), (1939), and Walton (1957); for the Elder Pliny, Rackham (1938), (1942), and (1950); for Seneca, Corcoran (1972); for Silius Italicus, Duff (1934); for Strabo, Jones (1923); for Suetonius, Rolfe (1914); for Vitruvius, Granger (1934). All translations are my own.

that the land had previously been on fire and had had craters of fire, but now was quenched since the fuel had been consumed” (Str. 5.4.8). It is possible that some of Vitruvius’ and Strabo’s discussion of subterranean flames and volcanic eruptions derives from Posidonius, whose fragments demonstrate a pervasive interest in the question of what lies beneath the surface of the earth.⁷

I shall postpone discussion of Diodorus’ account of Vesuvius for the moment. The Elder Pliny remarks on the distinctive soil of the Phlegraean fields and their unmatched fertility. The porous pumice-like quality (*pumicis uice fistulosa*) of the soil retains water without growing soggy or releasing water in springs: “warming it moderately within itself, it keeps the water within like a kind of juice” (Nat. 18.110). This account of the unusual behavior of water below the surface of the Phlegraean fields fits conceptually into Pliny’s comprehensive account of wonders at the end of book 2: disappearing rivers and marvelous springs (Nat. 2.224–34), and the underground fires of bitumen, naphtha, volcanoes, and fiery lakes (Nat. 2.235–41). Pliny here closes his account of the universe (*mundus*) with a comprehensive, even rather enthusiastic, account of liquid and fire hidden in the hollows of the earth. There is a spine-tingling coincidence in the fact that it was these same hidden fires that brought his own death in the eruption of Vesuvius in 79. Pliny bustles through, eager to move from the cosmology of book 2 to the geography of books 3–6: “Once the mind has completed (*egressa*) the interpretation of nature it is eager to lead the minds of readers as if by the hand through the whole world” (Nat. 2.241).⁸ Launching the description of Italy, he pauses to excuse himself for not doing justice to it, especially Campania (Nat. 3.40): “I ask that my readers remember that I am hastening (*festinari*) to discuss everything in the entire world” (Nat. 3.42). The subsequent geographical account of Campania in book 3 notes the abundance and excellence of the region’s wine, olive oil, fish, and alica (spelt), and “Mount Vesuvius in view” near Pompeii (Nat. 3.60–62).

The didactic hexameter poem *Aetna*, as Jarrett Welsh has recently argued, offers a nuanced combination of scientific and poetic thinking about the volcano.⁹ Since it does not mention the eruption of Vesuvius in 79, it is thought to have been written before that event. Its author rejects stories of gods and giants in

7. Cf. Str. 6.2.3, citing Posidonius’ discussion of ash falling in Catana near Etna and making the vines very productive (fr. 234 Kidd); for discussion, see Kidd (1988) 824–26. See also Vit. 8.3.12 and 8.3.27.

8. See Newlands (2010) for an illuminating discussion of Pliny the Younger’s account of the eruption and his uncle’s death in *Ep.* 6.16 and 6.20.

9. Welsh (2014). On the poem generally, see Goodyear (1965) and (1984), as well as Hine (2012).

favor of rational explanations of eruptions and describes the operations of fire and air in the hollows beneath the volcano at length: “the earth is not wholly made of something solid, for everywhere it has emptiness” (*non totum ex solido est; ducit namque omnis hiatus*, *Aetna* 96). The winding hollows of the earth are like the veins of the body, and in them the winds build up that make Aetna’s flames burst out. Should anyone doubt the reality of Aetna’s hidden hollows, he should consider the more visible passages through earth, especially rivers that disappear in one place and reemerge elsewhere: “get reliable understanding of what is hidden from what is visible” (*occultique fidem manifestis abstrahe rebus*, *Aetna* 145). Like Strabo and others, the author of the *Aetna* compares volcanic rock visible in the landscape at Aetna to other known volcanic areas: Aenaria on Ischia, Stromboli and Volcano in the Lipari Islands, and “the place between Naples and Cumae is a witness [of volcanic activity] now cold for many years, although sulfur spurts forth continuously in the fertile soil” (*Aetna* 431–33). This passage is often understood to demonstrate that “Vesuvius was mistakenly considered extinct.”¹⁰ But perhaps the overall emphasis on the entire hollowness and permeability of the earth in discourse about volcanoes and earthquakes left some room for suspicion or uneasiness about what might happen in Campania.

The destructive earthquake in Campania in 62 or 63 CE made the possibility of danger more perceptible to some. While at no point does Seneca specifically say “I can see that Vesuvius is a volcano and it may erupt at any time,” a perception of the potential for violent destruction in Campania is nevertheless the foundation of the whole discussion of earthquakes in the *Natural Questions*. He begins:

Lucilius, most excellent of men, I have heard that Pompeii, the well-known city in Campania, has collapsed in an earthquake, and whatever lies nearby the ravaged areas. The shores of Sorrento and Stabiae approach it from one side, and those of Herculaneum from the other, stretching around the sea in a pleasant bay set back from the high sea . . . Consolations must be found for frightened people, and enormous fear must be diminished. (Sen. *Nat.* 6.1.1, 6.1.4)

Seneca, like other writers, embraces the idea that volcanoes, underground passages, and earthquakes are all manifestations of the earth’s thoroughgoing hollowness. As

10. Duff and Duff (1934) 351.

11. Williams (2006) and (2012) 213–57. As Seneca argues for wind being the cause of earthquakes, he quotes Virgil’s descriptions of the winds resisting their imprisonment by Aeolus (Sen. *Nat.* 6.18, Virg. *A.* 1. 55–56, 53–54). These descriptions of winds have their own gigantomachic qualities; cf. Hardie (1986) 90–97. Seneca incorporates the gigantomachic narrative into his rational explanation.

Gareth Williams has shown so effectively, Seneca's purpose is to move his audience from sight to insight: from terrified wonder at the particular local effects of the tremendous Campanian earthquake to a deeper, calmer, and wiser understanding of the general principles of the construction of the earth, that is, that because it is full of hollows, the earth can tremble anywhere, or expel wind or flame, at any time.¹¹ And so, Seneca says, "sturdiness (*robur*) comes to the mind from no other source than from liberal arts (*a bonis artibus*) and the contemplation of nature. For whom has this [Campanian earthquake] disaster not made stronger and more adamant in the face of all disasters?" (*Nat.* 6.32.1). The power of Seneca's argument—that true tranquility comes from the realization that one faces the risk of death not just at Campania but everywhere on earth—is derived from the extent to which his audience feels the potential dangers beneath the ground in Campania.

Accounts of Vesuvius after the eruption in 79 CE react to the catastrophe in a variety of ways. As has been noted, Martial (4.44) depicts Vesuvius as a victim of capricious gods, rather than as the source of Campanian troubles.¹² For Statius (*Silu.* 4.4.78–85), the aftermath of the Vesuvian eruption is a demonstration of resilience.¹³ Valerius Flaccus compares a night battle at Cyzicus (3.209) and the Harpies in flight (4.509) to an eruption of Vesuvius. This is part of Valerius' overall strategy of measuring the Greek myth of Jason's Argonautica in recognizably Roman terms.¹⁴

In Silius Italicus' *Punica*, earthquakes at Vesuvius are among the portents before the battle of Cannae (8.653–55). Silius uses the violent potential that lies beneath the Campanian landscape to depict the scale of Hannibal's battles in Italy. Hannibal himself receives an informative tour of the area's mythical and geological features while he is at Capua (12.108–157): "men say that the Giants laid low by Hercules' weight (*mole*) shake the earth that was put on top of them, that over a wide extent the fields are burnt with their hot blasting breath; and whenever they threaten to burst the constraints laid on them, the sky trembles" (12.143–46).¹⁵ As Hannibal's forces are defeated at the end of book 17, Silius expands the force of Vesuvius' eruption to a global scale to describe how far and wide Hannibal's men are scattered: as far as when "Vesuvius spewed out the flames nurtured for ages and Vulcan's plague spreads over sea and land,

12. Watson and Watson (2003) 332–36.

13. See further Newlands (2010).

14. Cf. Val. Fl. 6.55 (Roman soldiers are not the first to bear the fiery brand of Jove on their shields) and 6.402 (battle between Greeks and Colchians is compared to Tisiphone rousing Roman legions to civil war).

15. Cf. Sil. 4.275–8: Crixus shouts in battle like Mimas the giant when he battled the gods at Phlegra. See Muecke (2007) for thematic connections between the Phlegraean geographical ephrasis and the rest of the *Punica*.

and the eastern peoples, the Chinese, see an amazing wonder: their woolbearing groves (i.e., their silk producing mulberry trees) grow white with Ausonian ash” (17.595–96).¹⁶

2. Phlegraean Stories: Gigantomachy and Geology in Campania and Pallene

As we have seen, then, ancient observers could read the stories of earth’s disturbances with particular clarity in the landscapes of Campania and Aetna. In those places the rocks, soil, hot springs, and the shape of the mountains combined to tell a visible story of volcanic cataclysm. Those landscapes were felt to tell another kind of story, more familiar in literary tradition, about battles of giants and gods, world-overthrowing challenges to the authority of Zeus.¹⁷ The second section of this article will explore the ways in which these mythic narratives and the kinds of geological narrative discussed so far inform and illuminate each other.

Most narratives of the gigantomachy myth locate the homeland of the giants in Pallene or Phlegra, on the westernmost peninsula of Chalcidice (Pind. *Nem.* 1.67, Apollod. 1.6, Diod. Sic. 4.15.1). The geomythic story ancients were reading here is a different, not-exclusively-volcanic, one. From Pallene one can look across the Thermaic Gulf toward Mount Olympus and Ossa in Thessaly (cf. Xerxes’ view in Hdt. 7.128–29). Mount Ossa and Mount Olympus look as though they once walled in the Thessalian plain but have been broken apart so as to let the Peneius river drain to the sea.¹⁸ Setting the giants’ headquarters in Chalcidicean Phlegra reads a story of gigantic-rebellion-defeated into the position of these mountains and the course of the Peneius. If giants piled up Pelion, Ossa, and Olympus, they would not only get to Zeus, they would alter the flow of the Peneius and perhaps turn the Thessalian plain from rich farmland back

16. Extending the ash all the way to the Seres and their silk takes it further than Dio Cass. 66.23.4, who says that ash fell in Africa, Syria, and Egypt, as well as in Rome.

17. The giants are not mentioned in the *Iliad*; in the *Odyssey* Alcinoüs compares the Giants to Cyclopes and Phaeacians (*Od.* 7.206; cf. *Od.* 7.59–60), and the Laestrygonians waging a violent attack on Odysseus and his men are said to act like Giants (*Od.* 10.118–120). Hesiod mentions the birth of the Giants (*Th.* 185), but there is no direct indication of them attacking the gods. The motif of gigantomachy appears in art in the second half of the sixth century; see further Hard (2004) 86–91. On the locations assigned to the battle of Zeus with Typhon, see Strabo, citing the historian Xanthus, at 12.8.19 and 13.4.11 (comparing the soil of the “Burnt Country” (*Catacecaumene*) in Mysia to that of Catana near Aetna), and Ogden (2013) 75–77. A challenge to Zeus was also read in the underground flames near the spring Olympias in Arcadia, where, according to Pausanias (8.29.1), the Arcadians said that Zeus had battled the giants; cf. the comments of Frazer (1898) 314–15.

18. For Thessalian stories that the channel was made by Poseidon, see Hdt. 7.130; cf. Str. 9.5.2 and Sen. *Nat.* 6.25.2, explaining that an earthquake caused the drainage of the Thessalian plain.

into a huge lake.¹⁹ The typical end of the gigantomachy is that a monster is confined beneath Aetna.²⁰

However, it was also possible to read the parts of the various Zeus vs. monster stories in Campania if it was expedient to do so. The term Phlegraean Fields was transferred to Campania from Chalcidice's Pallene: the name was given to the volcanic surroundings of Cumae by its founders, Euboean colonists from Chalcidice. Pindar's *Pythian* 1 (470 BCE) says that the monster Typhon is crushed beneath Cumae and the mountains of Sicily (*Pyth.* 1.15–28, cf. Aesch. *PV* 351–74). Pindar puts the geological similarity of the volcanic landscapes of Cumae and Aetna (which had erupted in 479–478 BCE) to political use in order to consolidate and magnify the order-establishing actions of Hieron—his setting up of a settlement called Aetna and his defeat of Etruscan forces in a sea battle near Cumae in 474.²¹ Strabo cites this passage from Pindar to explain that the entire area between Cumae and Sicily is full of interconnecting subterranean chambers (5.4.9).

Since defeat of giants is victory for the world order, telling or depicting a gigantomachy is an utterance with political dimensions. Scenes of gigantomachy on the Parthenon at Athens and on the altar of Zeus at Pergamon were part of celebrating those cities' and their rulers' places in an ordered world. Philip Hardie and James O'Hara have offered detailed readings of Virgil's rich and nuanced uses of gigantic imagery in the *Aeneid*.²² In offering one possible derivation of the name of the fifth month, Maius, from Maiestas, Ovid says that Jove's victory over the giants protected Maiestas' presence among the gods and ensured that reverence for authority would be a lasting presence at Rome (*Fast.* 5.35–53). Claudian pictures the defeated giants beneath Aetna in a way that memorializes Jove's victory in distinctly Roman terms by using the vocabulary of the Roman triumph: "Aetna, never to be silent about the Gigantic triumphs" (*Aetna Giganteos numquam tacitura triumphos*, *DRP* 1.154).

Heracles was part of the gigantomachy because, so the story went, the gods needed a mortal ally to win. Early versions situate Heracles' participation in the battle in Phlegra in Chalcidice: Heracles has to carry Alcyoneus away from Phlegra/Pallene to defeat him (Pind. *Nem.* 1. 67 and *Isth.* 6.31–34, Apollod. 1.6). Storytellers more focused on Rome can have Heracles battle the giants in

19. Olympus, Ossa, and Pelion: Ov. *Fast.* 3.441–43; cf. Ov. *Met.* 1.151–55.

20. Enceladus: Apollod. 1.6, Virg. *A.* 3.578–82; Typhoeus: Ov. *Met.* 348–55; Claud. *DRP* 1.54.

21. Cf. Hine (2002) 71. Virgil (*A.* 9.716–17) and Lucan (5.101) describe Typhoeus confined beneath Inarime (Ischia) off the Campanian coast; cf. Hom. *Il.* 2.781–83.

22. Hardie (1986) and O'Hara (1994).

Campania, as part of his return from Iberia with the cattle of Geryon (Str. 5.4.4, 5.4.9).²³ Of these, the most significant for our purposes is that of Diodorus Siculus (fl. ca. 60–30 BCE)—who was born not far from Mount Aetna in Agrigum in Sicily.

Diodorus' Heracles looks very like a Roman general. Unlike archaic stories of Heracles' travel westward in the cup of Helios (Athen. 469c-d, citing Pisander and Panyassis), Diodorus says that Heracles gathered an army, provisions, and ships at Crete to prepare for his expedition against Geryon (4.17.1–3). Along the way he subdued Libya, brought it under cultivation, and founded a city named Hecatompylus (4.17.4).²⁴ He set up pillars (*stelae*) at the western edge of the Mediterranean on either side of the straits of Gibraltar, much as Roman emperors might put an arch in a distant strategic spot: "Heracles, having reached the distant edge of the continents Libya and Asia, situated by the ocean, decided to erect these pillars. Intending to establish a lasting remembrance there, they say, he extended both promontories a long way."²⁵ As a result, according to some, he narrowed the passage and prevented sea monsters from entering the Mediterranean. Others read the story of those rocks near Gibraltar to say that Hercules cut the passage between Libya and Europe, thus creating a passage between the Ocean and the Mediterranean (4.18.4–5). Diodorus compares this infrastructure project at Gibraltar with Heracles' activities in Greece, where the lakes and meadows of the karst landscapes of Thessaly and Boeotia had long been read as telling Herculean stories:

Earlier in Greece he did something very similar to this. On the one hand, in the region called Tempe, where the plain becomes a lake (λιμναζούσης) for a large area, he cut through the adjacent area and by diverting all the water out of the lake (λίμνην) through this ditch he made the plain appear in Thessaly along the Peneius river. In Boeotia, though, he did the opposite: by damming the stream near Minyan Orchomenos he made the land become a lake (λιμνάζειν) and devastated the whole area. He did what he did in Thessaly to help the Greeks, but in Boeotia he was punishing those who lived in the Minyan land because they had taken the Thebans as slaves (Diod. Sic. 4.18.6–7).²⁶

23. Dionysius of Halicarnassus 1.39–44 tells of Heracles in Italy but does not mention gigantomachy.

24. Hecatompylus is perhaps to be identified with Capsa; cf. Sulimani (2011) 171–75.

25. Cf. Str. 3.5.5 of the *stelai*: 'which Pindar called the gates (*pylas*) of Gadeira'.

26. Diodorus' narrative of Heracles' motives of reward and punishments differs from Pausanias, who focuses more on using the size and strength of the hero to explain these large features of the

Diodorus' Heracles has the insight into how best to use the land for strategic advantage and the topographical and engineering know-how to act on that insight—both of which were central elements in Roman military campaigns.

Leaving the leading men of Iberia in charge of the newly improved region, Heracles departed by way of Gaul, where he founded Alesia, which, Diodorus says, remained a free city until it was sacked by Julius Caesar (4.19.1–2). Departing thence he built a road (ὁδοποίησε) over the Alps and subdued the natives so as to make traveling the route secure. He passed through Liguria, a stony land of very hardy workers.²⁷ Arriving at the Tiber he established a special relationship with the Pinarii family on the Palatine before moving on south to Cumae: “Here, storytellers say, there were men outstanding in strength, known far and wide for lawlessness who were called giants. They say that the plain was called Phlegraean from the hill that spewed monstrous flames a long time ago, much like Aetna did in Sicily. Now it is called Vesuvius, and bears many indications of the ancient conflagration” (4.21.5).

Like Strabo and Vitruvius, Diodorus here clearly acknowledges the volcanic characteristics of Vesuvius. Heracles fought the giants and brought the land under cultivation (Diodorus notes that Timaeus also followed this mythical account). Proceeding to Lake Avernus, Heracles filled in the gap where it flowed to the sea and built a road (4.22.2). During a circuit of the cities of Sicily he accepted being worshipped as an immortal, and he arranged for his nephew Iolaus also to receive special honors and sacrifices (4.23–24). It all sounds remarkably like a Roman general's career, especially in the sense that a Roman general is also an explorer, a strategic builder and rebuilders of the territory through which he passes. The harbor works and the general establishment of peaceful, cultivated landscapes in Campania and the emphasis here on Heracles' first acceptance of divine honors may give the story a dimension of celebrating and endorsing Augustus' own actions and his own eventual acceptance of divine honors.²⁸

natural landscape. At 9.38, Pausanias cites stories that attribute flooding of the plain of Orchomenos to Heracles blocking a chasm; at 8.14, Pausanias records accounts that the chasms that drain the Pheneus in the Peloponnese are attributed to Heracles. Pausanias does not attribute the drainage of the Thessalian plain to Heracles. It is associated with Poseidon at Hdt. 7.130, Str. 9.5.2, and Sen. *Nat.* 6.25.2 attribute it to an earthquake.

27. Also described by Strabo, citing Posidonius (3.4.17); cf. Strabo 4.1.7, citing Aeschylus' *Prometheus Unbound* (fr. 199 Sommerstein). Strabo perhaps implies that in the Aeschylus fragment, Prometheus is describing an East to West journey toward Spain. Dionysius of Halicarnassus (1.41), likewise citing Aeschylus' *Prometheus Unbound*, makes clear that it is the West to East journey from Spain to Italy that is described.

28. On Heracles' exploits as a precedent for Agrippa's construction of the port at Misenum, see Sulimani (2011) 178, as well as Leonard's discussion of Prop. 1.11 in this volume. Cf. also Dion. Hal. 1.44.1.

Diodorus returns to the gigantomachy theme in his fifth book's narrative of the rise of Zeus to supremacy over all the gods. Zeus is a virtuous exponent of justice who brought "equality and democracy" to humans among other benefactions. Like a Roman general he wages wars in many different places: he battled Giants in Crete, in Pallene, and again in Italy's Phlegraean Fields, punishing them because they had enslaved their neighbors. Grateful mankind rewarded Zeus with his seat on Olympus and his unending rule. Even though Zeus is already divine, the narrative of the consequences that follow from his defeat of the Giants sounds like deification: "because of the extent of his benefactions and the preeminence of his power, kingship for all time and a dwelling place on Olympus was granted to him by all men in unanimity." Superior sacrifices were allotted to Zeus, and "after his transfer from the earth to the heavens, just beliefs came into existence in the souls of the people who had been well treated by him that he is master (κύριος) of everything in the heavens, that is storms and lightning and thunder and all other such things" (5.71.6–72.1). By putting this emphasis on benefaction and the role of humans in awarding Zeus his preeminent divine status, Diodorus makes his Zeus analogous to his Julius Caesar, whose praises he frames in a similar way. Like Zeus, who traveled "through nearly all the inhabited world" defeating "bandits and impious men" and "introducing equality and democracy" (5.71.2), Julius Caesar, "addressed as a god on account of his accomplishments, defeated the most numerous and most bellicose of the Celtic peoples and extended the hegemony of the Romans all the way to the British isles" (1.4.7). In celebrating the rebuilding of Corinth by Julius Caesar, Diodorus says that Caesar "went beyond his predecessors in the extent of his accomplishments and he was justly awarded the title [i.e., *Diuus*] earned by his own excellence" (32.27.3).

As Adrienne Mayor has shown so convincingly in *The First Fossil Hunters*, there is a material basis for associating giants with volcanic landscapes: disturbances in the earth's surface brought to light the fossils of large animals that were interpreted as the bones of the giants. Augustus had in his villa on Capri a display of "the very large limbs (*membra praegrandia*) of huge sea beasts and wild animals, which are called the bones of giants, and weapons of heroes" (Suet. *Aug.* 72.3).²⁹ Displaying the bones of the giants is perhaps one more way in which Augustus can suggest that in some ways he is a new version of monster-subduing Heracles.

The politics of gigantomachy change in response to changes in political circumstances. If Diodorus Siculus celebrates Jove's Caesar-like victory, Petronius uses motifs of gigantomachic conflict in a less straightforwardly celebratory

29. See further Mayor (2000) 143, 172–75.

way in the poem on the Civil War that is performed during the *Satyricon*.³⁰ A similar sense of the potential for destruction emerges in the *Aetna*. The *Aetna* puts forward a scientific explanation for the volcano's eruption. The source of the volcanic fire is said to be subterranean reserves of sulfur, alum or bitumen, just as Vitruvius had said: "now the bright moisture of sulfur burns without interruption, now a fluid thickened with alum is offered, now oily bitumen is at hand, and whatever provokes fierce flames when it is at hand" (*quicquid comminus acris / irritat flammās*, *Aetna* 392–93). The "lava-stone" (*lapis molaris*), however, is the most significant source of fuel for Aetna's volcanism. Other similar places (including Solfatara, between Naples and Cumae) lack Aetna's supplies of lapis molaris and therefore no longer have volcanic eruptions (426–48). But before stating this scientific, rational view of eruption, the poem's author retells at length—only to reject—several mythical explanations of Aetna's eruptions: it is not Vulcan's furnace nor the workshop where the Cyclopes made Jove's armor, nor is Aetna where Jove buried Enceladus after the giants attacked Jove by piling Olympus on Ossa on Pelion. In this mythic narrative (41–73), Jove is frightened at first (*metuit*) and withdraws in the face of the giants, but then, aided by all the other gods he wields his lightning until order is restored to the world: "then was peace restored to the universe" (*tum pax est reddita mundo*, 68). Later on in the poem, though, rather than emphasizing the placement of the mountain on the threatening giant, descriptions of the simmering volcano hint at the potential for continuous provocation and conflict. Aetna's eruptions continue to frighten Jove: "he trembled in his hidden spot" (*in occulto tacitus tremit*, 203–6). The striking picture of Jove as still frightened by the rumblings may be part of the Aetna poet's overall dismissive attitude toward divine narrative.³¹ It also contrasts strongly with narratives of Jove's lasting supremacy over the giants such as that of Horace (*Carm.* 3.4). If Horace's Jove is analogous to Augustus (cf. *Carm.* 3.5.1–4), the Aetna's Jove trembling in his hidden spot is something more like Claudius, hiding behind a curtain after the assassination of Caligula (Suet. *Cl.* 10).

Dio Cassius' gigantomachic narrative of Vesuvius can be understood to set the scene for the death of Titus and the succession of Domitian in 81 CE. Dio (ca. 150–235 CE) says that figures resembling Giants appeared in the smoke associated with the eruption, and some thought the Giants were rising up in revolt (66.23). Dio takes an overtly negative view of Domitian's reign, and uses stories told of giants on the loose in Campania to reinforce the sense of Domitian

30. See Petr. *Sat.*, 122.136, 123.206–8 with Connors (1998) 117–25.

31. Cf. Apul. *Met.* 4.33, where Jove is said to tremble at (*tremat ipse Iouis*) the serpent monster (i.e., Cupid) destined for Psyche.

as dangerous. Plutarch (ca. 46–120 CE), not so explicit in his negative view of Domitian, also mentions Vesuvius in the context of the death of Titus in his “Divine Vengeance.” In a narrative constructed to resemble Plato’s myth of Er, a certain Thespesius is shown what happens to souls after death. On the tour he is almost in a position to glimpse the oracle at Delphi from below, where he hears “the Sibyl” give a prophecy of the eruption of Vesuvius and hears a scrap of verse predicting that a good emperor (presumably Titus) would die of natural causes (*Mor.* 566E).³²

These examples, from stories of Heracles, to Augustus’ fossil museum of giants’ bones, to Dio’s vision of giants abroad in Campania not long before the succession of Domitian, show the wide range of ways that the physical geography of Campania and the mythical and historical human geography of Campania might reciprocally illustrate each other. There is something gigantic too in the fact that the distinctive ash found in volcanic landscapes was used to make concrete structures on a much larger and more soaring scale than had previously been possible.³³ So Strabo, in his description of the area around Cumae moves seamlessly from describing the stories about giants to an account of the area’s enlarged harbor. Mentioning that some say Puteoli was so named from its wells (*putei*, in Latin), he continues:

... but others say [that it was so called] from the foul smell (cf. the Latin verb *puteo*, “stink”) of the waters since the whole area up to Baiae and Cumae has a bad smell because it is full of sulphur and fire and hot springs. And some believe that for this reason Cumae was called Phlegra and that the wounds of the giants felled by lightning bring forth these streams of fire and water. The city has become a huge (μέγιστον) emporion because it possesses man-made harbors. This is because of the nature of the sand. Being such as to mix perfectly (σύμμετρος) with the lime (τιτάνω) it takes on a strong fixed quality and solidity. Therefore when they mix the ammokonia (ἄμμοκονίαν, i.e., the sand mixed with lime) with the gravelly stone (χάλικι, i.e., the pozzolana), they can build jetties out into the sea and make the wide-stretching shores curve into bays so that even the very largest trading ships can harbor there safely. (Str. 5.4.6)

Dio’s description of Vesuvius is also worth returning to in this context. The events that follow the eruption of Vesuvius in 79 are a catastrophic fire at Rome while Titus was attending to rebuilding Campania, his dedication of the Flavian Amphitheater (later known as the Colosseum)—which Dio calls the “hunting theater” (τὸ θέατρον τὸ κυνηγετικόν)—at Rome, and Titus’ death in 81, insinu-

32. On the dating of Plutarch’s works and his attitudes toward Domitian, see Jones (1966).

33. On vaulted construction techniques, see Lancaster (2005).

ated to be at the hands of his brother and successor Domitian. This makes it especially compelling that when Dio is describing the configuration of Vesuvius he compares the hollow space in the volcano's cone not to a mixing bowl (crater) as others such as Lucretius had done (6.701), but instead says that it "resembles a hunting theater" (κυνηγετικῶν τινι θεάτρῳ, 66.21.2). Indeed, it was precisely the realization of the strength that pozzolana from the Phlegraean Fields brought to concrete that made it possible to build the gigantic arches and vaults of the Flavian Amphitheater and other monumental buildings. The lighter composition of volcanic stone could be used in the concrete for the upper reaches of the vaults, allowing them to be built on a larger scale. In fact, the earliest known domed architecture of the Romans, dating from the Augustan period, is at Baiae.³⁴ Seeing the shape of the Flavian Amphitheater already within the source of the volcanic stone that made its construction possible, Dio too, we could say, knew that the rocks don't lie.

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34. See Taylor (2003) 54–58 and 176 with further references and cf. McKay (1972) 51: "Pulvis Puteolanus enabled Roman and Campanian architects to undertake with courage and bravura engineering feats never tried before."

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