


Temporal Landscapes: Origins and Aspects of Vesuvian Iconography in the Seventeenth and Eighteenth Centuries

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This article considers an underinvestigated aspect of Vesuvian iconography in the seventeenth and eighteenth centuries: the use of artistic and realistic images to represent the appearance of a landscape before and after an eruption. This was done without any of the diagrammatic images that became increasingly popular with the development of the new earth sciences. My analysis reconstructs Vesuvian iconography from this specific perspective, beginning with its origins—through an analysis of five engravings by Nicolas Perrey depicting the dramatic eruption of Vesuvius in 1631—and tracing its later developments up to the eighteenth century and the work of William Hamilton.

INTRODUCTION

In 1631, after centuries of apparent inactivity, Vesuvius entered a long eruptive phase that lasted until 1944. The period between this eruption and the advent of photography (ca. 1857–72) gave rise to a rich and specific iconographic tradition—in the form of paintings, engravings, and even sculptures—that reached its developmental pinnacle in the second half of the eighteenth century.¹ From an art historical point of view, the best-known and most-studied works from this tradition are paintings, especially those with nocturnal representations of lava and volcanic fires, in line with what was known in the eighteenth century as the aesthetics of the sublime.² Texts about and prints of Vesuvian eruptions published from the seventeenth to the nineteenth century have long attracted volcanologists who are technically interested in their purely

¹According to Darley, 166–67, the 1872 eruption was the first to be captured on camera. However, see Ricciardi, 3:555–60, for earlier photographs.

²E.g., Beck Saiello, 2010.

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scientific aspects.³ Only more recently have these books piqued the curiosity of historians interested in the social, political, and literary aspects of the eruptions.⁴ Studies of more recent historiographies of catastrophe are decisively renewing the historical perception of past catastrophes, including the Vesuvian eruptions. However, such studies focus on texts more than on images and have tended to favor accounts of the great eruption of 1631.

The main aim of this article is to analyze a little-known aspect of Vesuvian iconography appearing in illustrated books in the seventeenth and eighteenth centuries: the attempt to visualize temporal phenomena in realistic landscapes—or, better, the orographic changes induced by eruptions. My analysis adopts a perspective that lies between art history and the history of science in order to elucidate the most important historical aspect of these images. Indeed, the increasing understanding of the temporality of nature was a central idea in the renewal of the earth sciences, which began in the seventeenth and eighteenth centuries. The earth was understood not as the product of instantaneous creation but as the result of events that slowly or catastrophically shaped its form over time.

A dynamic view of the earth had already appeared in the longstanding Aristotelian tradition of meteorological studies that assumed local and cyclical changes within an eternalist and, thus, nonhistorical conception of the world.⁵ However, it was only after the seventeenth or eighteenth century that a fully historical view of the earth came to be more generally accepted and made a fundamental contribution to the emergence, in the following century, of another scientific revolution: Darwinian biological evolutionism.⁶

Vesuvian iconography contains seminal forms of this new temporal vision. More specifically, as early as 1631, it includes images that attempt to visualize temporal processes in landscapes, an artistic genre typically associated with the *hic et nunc*—a place as it appears at a given time. This aspect is underestimated not only within histories of Vesuvian iconography but also in the history of landscape as an artistic genre and in the general history of early modern geological iconography. In general, Vesuvian printed iconography has rarely been the subject of both geological and art historical studies, the main exceptions being the plates published in William Hamilton's treatise *Campi*

³E.g., Nazzaro, 1985; Nazzaro, 2001; Nazzaro, 2009; Ricciardi; Lirer; Principe. The most complete bibliography of Vesuvian books and treatises is Furchheim.

⁴Everson; Cecere et al.; Cecere; Viceconte, Schiano, and Cecere; Cocco, 2013; Cocco, 2020; Casapullo and Gianfrancesco; Tortora.

⁵Duhem, 1906–09; Duhem, 1913–58; Ellenberger; Dal Prete, 2014; Dal Prete, 2022.

⁶On the history of geology see at least Rudwick, 2005; Rudwick, 2014; Poole; Ellenberger; Taylor, 2008; Gould; and Gohau.

Plegraei (Naples, 1776 and 1779) and, for art history, some prints representing the 1631 eruption.⁷

What follows is a first attempt at reconstructing the development of Vesuvian printed iconography between 1631 and 1776–79 (the years of the publication of Hamilton’s main works). It seems most probable that no other landscape tradition in early modern art had ever attempted to represent orographic changes over time in such a decisive manner.

1631: NICOLAS PERREY AND TWO SEMINAL APPROACHES TO REPRESENTING A CHANGING LANDSCAPE

As mentioned above, Vesuvius dramatically erupted on 16 December 1631. An enormous column of pyroclastic products rose toward the sky, and the next day the highest part of the volcano collapsed in on itself, creating an enormous flow of material that reached the sea, pushing the coastline forward. As the inhabitants of the surrounding areas and nearby Naples watched in horror, the mountain not only suddenly and threateningly erupted but, within the space of two days, radically changed the shape of the landscape: the summit of Vesuvius descended by more than 450 meters, the coastline advanced toward the sea, and large areas were covered by volcanic material. The event alarmed the nearby city of Naples. The intervention of the city’s patron saint, San Gennaro, was invoked and processions were held, promoted jointly by the religious and secular authorities of the then capital of Spanish viceroyalty. The city itself was only marginally affected by the eruption, which was popularly interpreted as a miracle. Religious and secular leaders promoted this viewpoint.

The 1631 eruption was an “explosive” type of eruption, meaning that no lava was produced.⁸ Vesuvius continued to be active during the seventeenth and eighteenth centuries, but its eruptions varied in intensity and type.⁹

⁷ On Hamilton’s plates, see Jenkins and Sloan; Knight, 1990 and 2000; Rudwick, 2005, 35–37, 75–76; Wood; Toscano, 2009, 42–58; Ciancio, 2009, 63–67; Leone and Mazzocca; Laurenza, 2020c; Laurenza, 2024. See also my chapter “Il Vesuvio di Volaire e di Hamilton” in *Mitteilungen des Kunsthistorischen Institutes in Florenz* (forthcoming, 2026). On 1631 iconography, see Koppenleitner; Viceconte (art historical studies connected with the history of catastrophes); Di Mauro; Visone; and Alfano (studies of urban landscape history: Vesuvius becomes the new landmark in the representation of the city).

⁸ Nazzaro, 2009, 30.

⁹ On the vulcanological characteristics of these eruptions, see Nazzaro 2001, 18–32; Nazzaro, 2009, 29–47; Ricciardi, 3:195–259. Eruptions in the seventeenth and eighteenth centuries: 1631, 1635, 1637, 1638, 1641, 1644, 1647, 1648, 1649, 1650, 1651, 1652, 1654, 1660, 1661, 1663, 1665, 1670, 1671, 1675, 1680, 1682, 1685, 1686, 1688, 1688, 1689, 1694, 1695, 1697, 1698, 1701, 1707, 1712, 1713, 1714, 1717, 1723, 1724, 1725, 1726, 1727, 1728, 1730, 1734, 1737, 1751, 1754–55, 1760, 1767, 1770, 1771, 1779, 1786–89, 1791–93, and 1794.

The eruptions were accompanied by changes and phenomena that stimulated, from time to time, experimentation with new iconographic formulas.

Some eruptions brought about landscape changes that could be termed *constructive*: the creation of a mound inside the crater in the years following 1631, and especially during the 1682, 1685, and 1689 eruptions; the emergence of mounds on the slopes of Vesuvius in 1760; and the widening of the summit crater during the 1767 eruption. Other eruptions had a more destructive effect—the summit crater, for example, was lowered in 1737 and 1794, just as had happened in 1631. Some eruptions (e.g., 1694, 1696, 1701, 1714, 1717, 1737, 1751, 1754–55, 1771) were of an “effusive” nature, and representations of them sought to account not only for lava flows but also for their superposition on the existing landscape.

Finally, the eruption of 1779 presented eighteenth-century observers for the first time with spectacular “lava fountains”: fiery material catapulted to great heights above the volcano. And, thanks to this eruption, it also became more common for treatise engravings (from Hamilton’s to those of Gaetano De Bottis) to depict the nocturnal eruption of the volcano, capturing the changing ephemeral light and color play of lava fountains and volcanic clouds. However, even in the absence of lava, the great eruption of 1631 stimulated seminal experiments with at least some visual forms of representation, which were then developed in relation to later eruptions: the depiction of orographic changes, pyroclastic flow, and the clouds it forms.

This eruption, which marked the start of Vesuvius’s modern activity, generated a veritable publication fever. According to some estimates, at least 234 books and pamphlets devoted to the event were produced in the years immediately after 1631.¹⁰ Engraved and painted images of the eruption also emerged. The representations of the 1631 eruption most relevant to the present analysis are five plates by the engraver Nicolas Perrey (ca. 1596–1661), published in 1632–33 in books by Gregorio Carafa, Giambernardino Giuliani, and Giovanni Battista Mascolo (figs. 1–4).¹¹

Both the texts and their illustrations have been the subject of studies aimed at reconstructing the complex dynamics of the 1631 eruption.¹² Only recently,

¹⁰Nazzaro, 2001, 24n47; Furchheim, 241–44.

¹¹See Carafa, 1632a and 1632b (title translates as “Introductory letter to a booklet on the last conflagration of Vesuvius”); Giuliani (title translates as “Treatise on Mount Vesuvius and its fires”); and Mascolo (title translates as “On the fire of Vesuvius in the 17th cal. of January in the 31st year of the 17th century”).

¹²E.g., Principe; Lirer, 31–39; Nazzaro, 2001, 18–32; Nazzaro, 2009, 29–47; Ricciardi, 1:195–256.



Figure 1. Nicolas Perrey, Vesuvius before and after the 1631 eruption, in Gregorio Carafa, *Opusculum de novissima Vesuvij Conflagratione Epistola Isagogica*, 1st ed. (Naples: Francesco Savio, 1632), engraving. Rome, Biblioteca Nazionale Centrale.

however, have they become the focus of further historical analysis, which, in the context of disaster iconography, has highlighted their social implications,¹³ or has shown how the images actually constitute an original attempt to represent the landscape before and after the eruption.¹⁴

Perrey, of Burgundian origin, was very active in Naples from 1616 until his death, in 1661. Among other activities, he collaborated as an engraver on Alessandro Baratta's great map of Naples, the masterpiece of seventeenth-century Neapolitan cartography. He has only recently attracted the attention of scholars and has rarely been studied in the field of art history.¹⁵ As for the authors of the texts, Carafa (1588–1675) was a clergyman and philosopher, Giuliani a lawyer and politician, and Mascolo (1583–1656) a Jesuit.¹⁶ All three demonstrate familiarity with the main theories of the time concerning volcanoes—how and why they erupt, what significance their eruptions have, etc.

¹³ Everson; Casapullo and Gianfrancesco; Viceconte; Cocco, 2013, 74–76, 206–08. See also Dombrowski.

¹⁴ Koppentleitner; Laurenza, 2017.

¹⁵ Pignalosa; Lofano; Palmisciano.

¹⁶ See, respectively, Bertoni; Bartoletti, 140–41; Crasso, 351–54; and Everson, 711–15. See also Cocco, 2013, 74–76, 207–08.



Figure 2. Nicolas Perrey, Vesuvius before the 1631 eruption, in Gianbernardino Giuliani, *Trattato del Monte Vesuvio e de' suoi Incendi* (Naples: Egidio Longo, 1632), engraving. Zürich, ETH-Bibliothek.

Perrey's engravings are the first example of the two primary approaches, later applied in Vesuvian iconography, to representing the dynamics of a landscape affected by an eruption: serial images that depict changes within the context of a supposedly pure landscape and simultaneous images that make use of diagrammatic inserts. In Carafa's book (fig. 1), the representations of the before and after appear simultaneously and in the same plate, while both Giuliani's and Mascolo's books include two engravings, one showing the places before the eruption of 1631 and the other illustrating the post-eruption landscape (figs. 2–4).

Perrey first created the plate for Gregorio Carafa's text, followed by the two engravings for Giuliani's text, and, finally, in 1633, those for Mascolo.¹⁷ The engraving produced for Carafa's text (fig. 1) is quite different from those for the other two. The images produced for Giuliani's and Mascolo's books can be considered two successive versions of the same couple of engravings (figs. 2–4). Despite these differences, the five engravings form a coherent iconographic

¹⁷Carafa's text is dated, at the end, March 1632 (*IV. Idus Martis 1632*). In its second edition, one of the imprimatur is dated 5 June 1632. Giuliani's text bears an imprimatur dated 2 June 1632, while Mascolo's was printed in 1633.



Figure 3. Nicolas Perrey, Vesuvius after the 1631 eruption, in Gianbernardino Giuliani, *Trattato del Monte Vesuvio e de' suoi Incendi* (Naples: Egidio Longo, 1632), engraving. Zürich, ETH-Bibliothek.

whole: looking at them together, one can trace the evolution of one basic image. Perrey adapted this basic image according to the scientific needs of each text.

For Carafa's book, Perrey realized a single plate, which was larger than the book's pages and consisted of a foldable sheet that the reader could easily hold open while reading (fig. 1).¹⁸ Here, representations of the landscape before and after the eruption are combined, imbuing the image, and the artistic genre of landscape, with a temporal and dynamic sense. Perrey's treatment of Vesuvius's summit exemplifies his approach. Following the eruption, the upper part of Vesuvius descended by about 481–83 meters. In the image, the lighter, almost transparent section of Vesuvius represents the upper part of the crater, which exploded during the eruption. The dashed line *M* indicates the original height with respect to Mount Somma (on the left); *B* represents the crater before the eruption; and *D* gives the height of the new, lower crater.¹⁹ These more diagrammatic inserts break, albeit only partially, the artistic landscape view. It was a necessary sacrifice, however, due to the scientific need for two points in time to be portrayed simultaneously. Carafa's plate and its caption give what

¹⁸ 285 x 198 mm.

¹⁹ *B* is within the dark and open crater.



Figure 4. Nicolas Perrey, Vesuvius after the 1631 eruption, in Giovanni Battista Mascolo, *De Incendio Vesuvii*... (Naples: Secondino Roncagliolo, 1633), engraving. Zürich, ETH-Bibliothek.

modern volcanologists have ascertained to be extremely precise measurements of Vesuvius's height variations.²⁰ Clearly, the engraver and the author collaborated closely.

The engraving also seeks to capture changes in Vesuvius's surroundings: before the eruption, the terrain was vibrant and lush, but as lava and volcanic material poured down its slopes, most signs of life were erased. The miraculous appearance of San Gennaro constitutes another event following the eruption. Though much of Carafa's text deals with religious events (more on this later), it opens and closes with chapters on the appearance and mutation of the landscape;²¹ Perrey's plate serves in this context as an integral part of a topographical survey of eruption-induced orographic change.

Carafa's first chapter describes the collapse of Vesuvius's summit and the topographical changes undergone by the volcano and the surrounding region following the eruption, with field-conducted measurements of the volcano's

²⁰Carafa, 1632b, 5–9 (chapters 1–2 in 1632a). See Nazzaro, 1985; and Nazzaro, 2001, 25–28.

²¹Carafa, 1632b, 5–9, 87–89 (chapters 1–2 and 27 in 1632a).

distances from various places: “Vesuvius, before it paid with its head the penalty for this disastrous fire, rose above the rim [i.e., Mount Somma] by 30 Neapolitan steps, as some local observers estimated. Now, mutilated in the head, it not only does not exceed it, but has been lowered 218 Neapolitan steps from the top of the ledge.”²² The plate clearly shows this change: *I* denotes the edge of Mount Somma (“Cilius,” as the caption reads), and *D* marks the edge of Vesuvius, which, as indicated in the caption, “after this last fire has been lowered 218 Neapolitan steps.”²³ In places where Carafa does not provide exact distances in the text, he refers the reader to the plate: “However, the fractions of this magnitude [the Neapolitan step], and the particles, which do not reach a whole step, I have omitted them here [in the text]: I have included them in the topography.”²⁴ And indeed, in the plate’s caption some numbers are completed by fractions. Carafa calls the plate a “topographia.” This designation underscores the image’s function as an orographic and not a generic representation of the eruption, setting it apart from other engravings and images related to the event. The text’s approach to other scientific aspects of the eruption, such as earthquakes (chapter 4, “Terraemotus & Scissio” [Earthquake and splitting]), exhibits a similar focus on changes in the landscape, such as the appearance of a new eruptive mouth below the main crater: “When and in what part of Vesuvius a new opening occurred. . . . On the right side of the same circular mouth begins another opening of irregular shape, approaching the letter *G*, the circumference of which, like a semicircle, is about 70 miles. A large mass of ash can be seen on its lips.”²⁵ The plate portrays the mouth from which the torrent of ash, indicated by *G*, emerges. These torrents of ash, so accurately depicted in the plate, also have an orographic significance for Carafa— they are signs of the near liquefaction of the mountain: “undulating and swollen torrents of burning and flowing ash; which run steeply down the slopes of the mountains, partly on

²² “Veholus, priusquam capite huius funesti incendii paenas lueret, Cilio circiter 30 passibus Neapolit. eminebat, ut quidam ex locorum observatione coniecerunt, nunc capite mutilatus, nedum excedit, sed 218 passibus Neapolitanis infra Cilii verticem decrevit”: Carafa, 1632b, 7 (chapter 1, “Situs Vesuvii ante conflagrationem” [Status of Vesuvius before the conflagration]). I owe to one of the reviewers of my article the suggestion to enrich the analysis of the images with quotations from the Carafa, Giuliani, and Mascolo texts.

²³ “Post novissimum hoc incendium decrevit passib.s Neap. 218.”

²⁴ Carafa, 1632b, 5; see also 9: “Harum tamen dimensionem fractiones, & particulas, quae ad integrum passum non ascendunt, hic omisi: quas in topographia apposui.”

²⁵ “Novus hic hiatus quando & in qua parte Vesuvii contigit A latere dextero eiusdem oris circularis, incipit alius hiatus irregularis figurae, quae ad litteram *G*: accedit, cuius veluti semicirculi ambitus 70 circiter passuum est. In cuius labris ingens vis cineris visitur”: Carafa, 1632b, 11–12.

the southern slope toward the sea; partly to the east. . . . During the period [of their formation] the whole mountain seemed to liquefy.”²⁶

In the last chapter (27, “*Præsens Vesuvij status*” [Present state of Vesuvius]), Carafa returns to the dramatic mutation of the landscape: “For the monstrous abyss still gaping at the top of Vesuvius, with its widest mouth, is to be feared in itself, and it is getting wider and wider every day because of the fiery tide demolishing the upper areas, while the craggy masses are repeatedly rushing in and filling the gorges and the chasms in and around the eroded mountain.”²⁷

In 1632, shortly after making Carafa’s plate, Perrey was commissioned to illustrate Giuliani’s book (figs. 2–3). This plate also emphasizes landscape changes following the catastrophic event, but here Perrey experiments with a serial iconographic format, using two successive plates instead of one (of a smaller format, each no larger than a single page).²⁸ The first plate depicts a flourishing landscape prior to the eruption, corresponding to the description in the first section of Giuliani’s book (1–22); the second plate depicts the effects of the eruption: the destruction of the apical part of Vesuvius, the desert created by the flows of volcanic material, and the miraculous intervention of San Gennaro. Much as the corresponding section of text does, this plate presents a mix of scientific and religious imagery.

The decision to represent before and after on separate plates allowed Perrey to avoid the diagrammatic insert present in Carafa’s plate. At the time that Carafa’s work was published, the use of diagrammatic images was not common.²⁹ Giuliani’s text, however, is significant not only because of the format of its two plates but also because of its combination of scientific and literary content.³⁰ The first part in particular exalts the beauty of the volcanic regions it treats—regions that have existed as such since classical times. Freeing the landscape from diagrammatic inserts was consistent with this more literary approach.

On the scientific side, Giuliani offers a more developed orographic discourse than Carafa does and goes a step further in his claims. Using the changes of 1631 as a starting point, he presents the hypothesis that Vesuvius

²⁶: “Undosos & tumentes candentis, liquatque cineris torrentes; qui in praeceps per montis declivia ruentes, partim ad Meridionale latus versus mare; partim ad Orientale . . . devoluti . . . per id tempus, quod totus Mons quasi liquesceret”: Carafa, 1632b, 31 (chapter 14, “*Ignitis Cineris Torrentes*”).

²⁷ “*Nam immanis vorago in vertice Veholi adhuc latissimo ore hians, per se formidanda est, & in dies magis igneo aestu superiora demoliente dilatatur, & intra barathri fauces & in ambitu montis exesi moles praecipites identidem runt*”: Carafa, 1632b, 87.

²⁸ 180 x 125 mm.

²⁹ Rudwick, 1976, 149–52, 177; Keller.

³⁰ Everson, 703–11; Cocco, 2013, 74–76.

may have been formed by material that erupted from the earth and that, in the future, it might be destroyed by the eruptions as well:

Therefore, it also seems that he is right who believes that Vesuvius was born from fire, so likewise by the same will it one day be burned and devoured: miserable unhappy child of the cruelest father. At the summit where the crater is, it is now eroded little by little by the burning flames, which have lowered it three hundred rods from its original height. We [who are in Naples] see this well, while those who are far away will be able to verify it, not without wonder, from the figure we place at the end of this booklet. Naples has gained at least this much good from it: now, in the morning, it enjoys earlier the beautiful rays of the sun in the East, which was not the case before because of the presence of a higher mountain.³¹

Giuliani, like Carafa, refers the reader to the plate placed at the end of the book, confirming the text-image connection. This is noteworthy because other texts on the 1631 eruption bear little relation to the engravings they contain, despite the fact that the book and the engravings treat a common subject.³²

In addition to describing the eruption's destructive effects, Giuliani reports on constructive events, such as the advance of the coastline: "All that long expanse of sea, which is from the first watchtower of Resina till past the Torre Annunziata, was seen in a stretch, in the width now a mile and now of a little less, marvelously filled with the matter that came out of the chasm of the Mount."³³ The plate, however, only includes the destructive events and is limited to generically depicting the cities affected by the advance of the coast (unlike in Mascolo's book). But despite this narrowed focus, it is clear that

³¹ "Laonde pare etiamdio, che non molto dal verisimile colui si diparta, il quale tiene, che sicome'l Vesuvio hebbe dal fuoco i suoi natali, così parimenti dallo stesso habbia'l misero (infelice figliuolo di crudelissimo padre) à rimanerne un giorno arso, e divorato affatto: e tanto più, ch'egli è fin hora in quella punta, ove stà la voragine, dalle ardenti sue fiamme, che à poco à poco l'han rosò, presso a trecento canne della sua primiera altezza abbassato, come noi adesso veggiamo, & altri che lontano ne stia, potrà dalla figura, che perciò alla fine porremo di questo libretto, non senza gran meraviglia anche vedere: onde questo almeno n'è à Napoli avvenuto di bene, ch'ella ne vien' hora più per tempo à goder la mattina del lucido Oriente i bei raggi del Sole; che non così, per l'opposizione di cotale altura di monte, ella dianzi faceva": Giuliani, 170.

³² For example, two engravings by Giovan Battista Passeri, pasted inside a copy (British Library) of Giovanni Orlandi's *Dell' Incendio del Monte Somma* (Naples: Lazzaro Scoriggio, 1631).

³³ "Tutto quel lungo spatio di mare, ch'è dalla prima Torre di guardia di Resina, sin passata la Torre dell'Annunziata, si vide in un tratto, nella larghezza dove d'un miglio, & ove di poco meno, maravigliosamente ripieno della materia uscita dalla voragine del Monte": Giuliani, 89.

Perrey gave careful consideration to the content of the text he was illustrating, and that he worked closely with its author.

When Perrey illustrated Mascolo's book, in 1633, he adopted the serial approach once again: two separate images, one pre- and one post-eruption (fig. 4). And, just as in Giuliani's book, each image is contained within one single page.³⁴ There are also several novel elements, such as new inscriptions that are all in Latin and consistent with Mascolo's Latin text.³⁵ There are also some small but significant changes in Perrey's depiction of the post-eruption landscape (fig. 4).³⁶ The new version shows the advancing coastline to the right, a product of accumulated erupted and still-smoldering material (see the area, below Pompeii, marked "Nova plaga maritima" [New sea beach]) or the retreat of the sea (as in the area, to the far left, marked "Mare retroactum" [Sea withdrawn and sucked back]). Moreover, unlike Giuliani's version (fig. 3), Perrey's figure of San Gennaro holds an ampulla in his right hand, and the shape of the eruptive cloud column extends farther to the right.³⁷ Finally, on the right along the coast, in front of the towns of Resina and Herculaneum, the sea appears to be crossed by flames. This is an allusion to a section of Mascolo's account in which he states that "the sea seemed to burn."³⁸

Both Giuliani's and Mascolo's texts describe the advance of the coast between Pompeii and Herculaneum, the withdrawal of the sea on the stretch of coast toward Naples, and, finally, the "burned" sea.³⁹ However, in 1633 Mascolo assigns greater importance to these phenomena and, thus, Perrey depicts them, integrating the engraving previously made for Giuliani (fig. 4).⁴⁰

Just like Carafa and Giuliani, Mascolo addresses the lowering of Vesuvius several times. However, unlike the former two, he mainly emphasizes the importance of the changes that occurred along the coast. The advance of the coast and the retreat of the sea, which in some places appeared to be covered with flames, also led him to consider other upheavals of land that had occurred elsewhere in or close to the sea. After describing the earthquakes and the "fire"

³⁴ 182 x 130 mm.

³⁵ E.g., "Vorago" (Chasm), "Novus Crater" (New crater [referring to the eccentric eruptive event of December 16 at the base of the cone]), "Torrentes igniti cineres" (Torrents of fiery ash), "Mare retroactum seu reserptum" (Sea withdrawn and sucked back), etc.

³⁶ Koppenleitner; Laurenza, 2017.

³⁷ "Nova plaga maritima"; "Mare retroactum seu resorptum": Perrey's engraving in Mascolo.

³⁸ "Mare ardere visum": Perrey's engraving in Mascolo.

³⁹ Giuliani, 89 (coastline advancement between Resina and Torre Annunziata), 151 (sea receding), 206 (burning sea); Mascolo, 18–19 ("Nova plaga maritima ex materia ingesta . . . mare ardere visum . . ."), 97 ("Mare retroactum . . .").

⁴⁰ The added note "Torrentes igniti cineris" (Torrents of burning ash) goes in the same direction, emphasizing the "watery" nature of the phenomena.

in book 3, for example, he writes, “I come to the prodigy placed in the third place, although this very one has a threefold effect: that the sea withdraws, or is reabsorbed, and that it immediately returns with impetuosity and overtakes the shore, and that it was at the same time sprinkled with flames from the fiery crater itself of the highest mountain (a new prodigy of Nature’s perturbation) and the fields and the subjacent cities were largely submerged.”⁴¹ This is followed by a more general discussion of these phenomena and by quotations from a number of ancient authors, including Strabo, who had specifically dealt with the geological changes that occurred in the sea: the appearance or disappearance of islands, the alteration of the coastline, and so on.

The printers may have also played a role in the elaboration of Perrey’s five images. Egidio Longo printed both the second edition of Carafa’s text and Giuliani’s book. However, one gets the impression that both the engraver and the authors of the texts played primary roles. In fact, as has been shown, Perrey modified the engravings to fit each of the three texts. His close relations with the Neapolitan cultural world explain his tight collaboration with the texts’ authors, and his ability to accommodate their needs.⁴²

REPRESENTING TEMPORALITY WITH OR WITHOUT MAN: ANTHROPOCENTRIC VS. NATURALISTIC VIEWS

The considerations presented thus far give rise to an important question: of the many texts published to describe the 1631 eruption, why were only a few illustrated, and why were they illustrated in this particular way?

It seems that the inclusion of illustrations depended on the relationship between author, publisher-typographer, and artist-engraver, which differed from case to case. For example, in addition to the illustrated texts by Carafa and Giuliani, the printer Longo put out important and successful publications such as the Jesuit Giulio Cesare Recupito’s *De Vesuviano Incendio Nuntius* (Naples, 1632), followed in 1635 by an Italian edition (*Avviso dell’Incendio*).⁴³ Recupito’s work is famous for its presentation of eruptive events as a series of five successive *spaventanti* (scares): earthquakes, ash rain, storms of stones, fiery torrents, and

⁴¹ “Venio ad prodigium tertio loco positum, quanq hoc ipsum triplicem habet eventum & quod mare retroactum, sive resorptum fit, & q[uod] mox cum impetu regressum praeter littus excurrerit, & q[uod] ex ipso altissimi montis cratere fervido (novum perturbate Naturae portentum) cum flammis una defusum, atque deiectum subiectos agros, & oppida late demerserit”: Mascolo, 97.

⁴² On Perrey and the Neapolitan cultural world, see Lofano. See also the excellent study by Gianfrancesco, 8.

⁴³ On this printing house, see Ruggerini. On Recupito, see Everson, 711–19; Cocco, 2013, 95–101.

floods. It is also dominated by an anthropocentric view: natural events are defined according to the human reaction of being scared, and the narrative is articulated as a theatrical drama made up of successive acts. After describing the flood, Recupito concludes, “This was the fifth scare, and the last performance of the tragedy of Vesuvius: which, although it was only one, was performed with many tragic events in several places. The approval and applause were the tears, and the sighs.”⁴⁴ Jane E. Everson has appropriately described Recupito’s text as “a more journalistic narrative of the human interest element.”⁴⁵ Even in the more scientific sections of the text, the descriptions of eruptive events emphasize social consequences, the damage done to people and homes, the miracles that occurred, and so on. Only a few words are said about orographic changes, which, moreover, liken the volcano to “a mutilated and eviscerated corpse.”⁴⁶ The changes undergone by Vesuvius itself were not harmful to people, and were thus of secondary importance. For Recupito, describing the eruption is a literary and, particularly, theatrical endeavor that does not require pictorial illustration. Perrey’s engravings are vital for texts aiming to capture changes in the landscape in serial or simultaneous form—for a theatrical text like Recupito’s, words told the story.

Another printer, Secondino Roncagliolo, published both Mascolo’s text and the *Relazione dell’Incendio Fattosi nel Vesuvio alli 16 di Dicembre 1631* (Relation of the burning of Vesuvius on 16 December 1631) by Giulio Cesare Braccini (Naples, 1631). The learned abbot Braccini deals extensively with the lowering of the volcano, which he had actually visited,⁴⁷ but the text, unlike Mascolo’s, contains no images. This would seem to confirm that, in the case of the Perrey engravings, the use of images was primarily left up to the authors of the texts. Contingent and commercial reasons, of course, may also have contributed to the presence or absence of images.

Typographer Giovanni Orlandi (ca. 1594–1640), in contrast, played a leading role as both an author and an engraver. He was active in Naples and Rome and published one of the first texts on the eruption of 1631 (*Dell’incendio del Monte di Somma* [Of the burning of Mount Somma], Naples, 1631). Although Orlandi’s text is a diary, it contains a number of elements (an account of previous eruptions of Vesuvius, the mention of religious and social facts, scientific notes) that make it a prototype for later texts.⁴⁸ The text is not

⁴⁴“Questo fu il quinto spavento, e l’ultimo spettacolo della tragedia del Vesuvio: che con essere una sola si rappresentò con molti tragici avvenimenti in più luoghi. L’appovazioni e gli applausi furono le lagrime, e i sospiri”: Recupito, 91.

⁴⁵Everson, 716.

⁴⁶Cocco, 2013, 98.

⁴⁷Nazzaro, 2001, 25–27.

⁴⁸Everson, 698–703.

illustrated, but Orlandi himself published a separate loose sheet (*Miserando successo e spaventevole occorso nelli 16 di Xbre Nel Monte Vesevo detto Somma* [Painful and frightening event on 16 December in Mount Vesuvius, known as Somma]) that contains a text and an engraving.⁴⁹ The engraving emphasizes a different aspect of the eruption from that fixed by Perrey: the enormous height of the cloud that formed above Vesuvius. Orlandi felt that this would interest readers and purchasers more than the depiction of the collapse of the volcano's summit (something he was aware of, as shown by his 1631 publication).

Compared to this image, and others produced in the same years, Perrey's plates have a more ambitious objective: to depict various aspects related to the eruption—especially the mutation of the landscape. Their creation was a complex and novel act: there was no precedent for the representation of an eruption and its consequences, apart from the few generic images of Monte Nuovo from 1538, the year when this small volcanic mountain was formed in the Pozzuoli area, not far from Naples. Perrey was asked to depict not only the 1631 eruption but also the state of the places before and after it. Nothing like this had happened in the 1538 images, or in landscape painting more generally.⁵⁰

Koppenleitner has proposed two comparisons for the dynamic character of Perrey's serial landscape engravings: one is the work of Jacques Callot, whose theatrical engravings (1620) depict scenes before and after events that spur key dramatic changes (events that are also sometimes referred to as catastrophes in the theatrical context); representations of cities before and after catastrophic events (such as the Great Fire of London in 1666, the siege of Münster in 1659, or the Ragusa earthquake of 1667) form a second comparative link.⁵¹ However, in both of these cases, it is the anthropic dimension that clearly prevails. Even the depictions of earthquakes or fires focus on changes in the urban landscape, such as buildings shown intact in one image and collapsed in another. What distinguishes Perrey's Vesuvian landscapes and the later examples produced between the late seventeenth and early eighteenth centuries is the predominantly naturalistic dimension: they show the changes in the natural rather than in the urban landscape in the aftermath of the eruption. It is true that they do capture the encroachment of pyroclastic flows into certain urban areas. But the only "building" whose collapse is depicted is Mount Vesuvius, not the architectural structures of the urban centers.

Furthermore, it is no coincidence that Perrey's landscapes contain minimal references to the social aspects of the eruption that are visible in many other

⁴⁹ Koppenleitner, 64–66; Viceconte, 197–98.

⁵⁰ On Montenuovo, see Gruet; and Hendrix.

⁵¹ Koppenleitner, 90–96.

engravings and paintings representing the 1631 eruption. These references, some of which have been recently and widely discussed by Milena Viceconte, include the depiction of ships sent by the viceroy Manuel de Zúñiga Acevedo y Fonseca, Count of Monterrey (1586–1653), to bring aid to the areas affected by the eruption; the great procession from Naples toward Vesuvius led by the religious and political authorities, starting with the archbishop of Naples Francesco III Boncompagni (1592–1641) and the viceroy, during which San Gennaro would miraculously appear; and the flight of people affected by the eruption toward Naples.⁵² The representations of the first two events in particular are forms of visual propaganda: by highlighting the protective actions taken by the civil and religious authorities, they seek to control the popular reaction to the calamitous event. In the case of Perrey's engravings that illustrate the texts by Carafa, Giuliani, and Mascolo, the figure of San Gennaro merely alludes to the miraculous event that took place during the procession.

Let us now consider, from a more general point of view, the problem of representing before and after in the visual arts of the early modern period. Studies in art history and semiotics, starting with Gombrich's groundbreaking work in 1964, have addressed the visualization of time, more or less redimensioning Lessing's classic distinction between spatial arts (the visual arts) and temporal arts (the verbal arts). However, the focus of such discourses has been the visualization of human time—for example, the representation of a succession of events in a history painting.⁵³

The visualization of natural time, which remained outside of the abovementioned strands of historiographical debate, appears more rarely in the art historical sphere (e.g., in relation to the seventeenth-century still life as *vanitas rerum*). Similarly, landscapes of ruins, the subject of many studies, relate mainly to dimensions of human history: this is true for the sacred iconography

⁵²Viceconte; see also Koppenleitner, 57–72, 88–90, 131–80; and, for the texts, Everson, esp. 696, 703, on Giuliani and Giulio Cesare Capaccio. The engravings include prints by Joachim Sandrart and Matthäus Merian, *Vesuvius Mons Neapoleos* (London, British Museum 1898,0725.8.2036), Giovanni Battista Passeri (*Vero disegno dell'incendio . . .*), and Giovanni Orlandi (the engravings mentioned above), as well as two prints by Nicolas Perrey different from those in the Carafa, Giuliani, and Mascolo books (*Vesuvius Pacatus pacis emblema . . .*; and *Vesuviani Incendii a Laurentio Longo . . .*: Bibliothèque Nationale de France [gallica.bnf.fr/]; and Koppenleitner, 88–89). The paintings include Battistello Caracciolo, Naples, church of the Certosa of San Martino (1632–34); Micco Spadaro, Naples, Museum of San Martino (ca. 1656–60); Scipione Compagno, Vienna, Kunsthistorisches Museum, and Naples, Museum of San Martino (ca. 1637); Massimo Stanzione, *The Body of St. Giacomo della Marca Carried in Procession in Naples at the Time of the Eruption of Vesuvius*, Naples, church of Santa Maria la Nova (1644–46).

⁵³Gombrich; Segre; Lifschitz and Squire; Cooke; Greenstein.

that emerged as early as the Renaissance, and for the better-known iconography linked to the poetics of ruinism and the picturesque in the eighteenth century.

In the case of sacred iconography, the semi-collapsed buildings of the Nativity or the Adoration of the Magi are a metaphor for the transition from the classical to the Christian world.⁵⁴ Recent studies have attributed a temporal and “stratigraphic” meaning to some representations of rocks in fifteenth-century art, from Van Eyck to Mantegna and, of course, Leonardo.⁵⁵ These are interesting hypotheses. However, in my opinion, there is a gap between the theoretical texts of the Aristotelian meteorological tradition, in which a temporal vision of the earth emerges, albeit with the abovementioned limits (Avicenna, Albertus Magnus, etc.), and artistic representations. With the exception of Leonardo, whose manuscripts clearly demonstrate theoretical awareness, more evidence is needed to argue that these artists’ works—even if they do exhibit great analyticity and realism—go beyond static representations of the mineral world.

In the case of eighteenth-century ruinism, the ruined buildings are often intertwined with the vegetation that covers them, but the idea of history has a prevailing anthropocentric polarity: the ruined buildings themselves recall classical humanity, while modern humanity is represented by the human figures who wander among the ancient ruins and/or reuse them.⁵⁶

Perrey’s engravings are so interesting precisely because they are seminal forms of experimentation, concerned not with human history but with the history of the landscape. The depiction of the before and after, a common practice in narrative painting with human figures, had never been applied to landscape painting, a genre that, at the time, was dominated by artistic landscapes and images in geography books.⁵⁷

GENERAL CONTEXT: FROM KIRCHER TO THE ICONOGRAPHY OF THE “THEORIES OF THE EARTH”

In the years following the paroxysm of 1631, Vesuvius entered a phase of both explosive/strombolian and effusive activity. This gave rise to a new phenomenon: the growth of a mound inside the crater. Despite being partially destroyed in the 1660 eruption, the mound continued to grow, rebuilding and raising the apical part of the Vesuvian crater destroyed in 1631 until the great

⁵⁴ Hui.

⁵⁵ Vai; Branagan; Dal Prete, 2018. On Leonardo only, see Laurenza, 2020a and 2020b.

⁵⁶ Calbi. On the difficult interaction between the picturesque and the documentary image, see Ciancio, 2003; and Ciancio, 2009, 79–113.

⁵⁷ E.g., Joris Hoefnagel’s engraving with Vesuvius dated 1580, in *Civitates Orbis terrarum* (Cologne, 1572–1617).

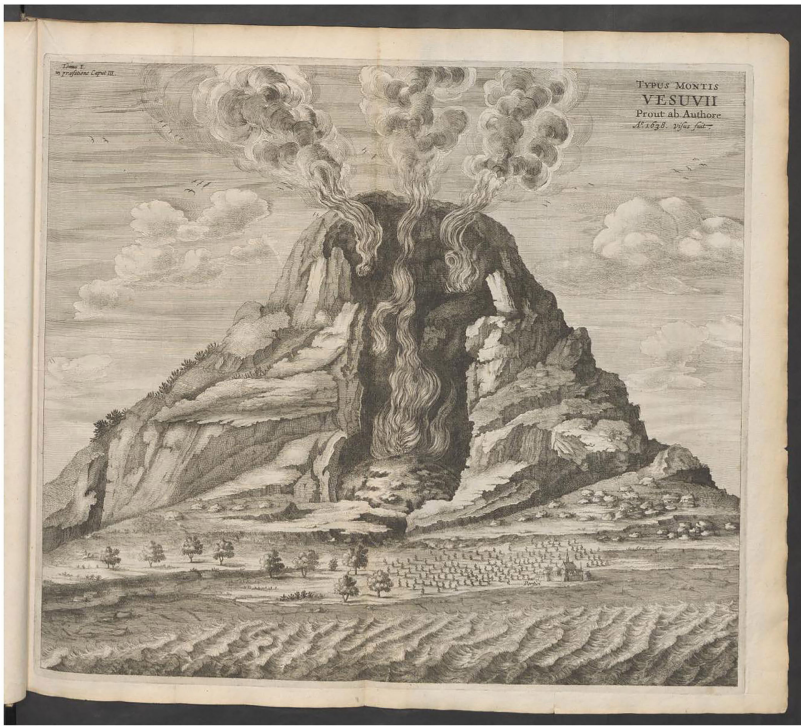


Figure 5. Growth of a mound inside the crater of Vesuvius in the years following the eruption of 1631. Johann Paul Schor (draftsman?) and Theodor Matham (engraver?) after an original drawing by Athanasius Kircher, in Athanasius Kircher, *Mundus Subterraneus*, vol. 1, *Praefatio*, ch. 3 (Amsterdam: J. Janssonium e E. Weyerstraten, 1664–65), engraving.

eruption of 1737 lowered it again.⁵⁸ In the years following 1631, it may have seemed to observers that the volcano had been reborn from its ashes. New representations made use of various visual strategies to highlight this constructive phenomenon.

An engraving by the Jesuit polymath Athanasius Kircher (1602–80), based on his own drawing (fig. 5), appeared in the *Mundus Subterraneus* (Amsterdam: J. Janssonium and E. Weyerstraten, 1664–65).⁵⁹ Vesuvius's dramatic changes following its 1631 eruption attracted Kircher's attention when, on the way home from a trip to Malta, Sicily, and Calabria, he summited the volcano and observed the activity inside its crater.⁶⁰ This visit was the *primum movens* for his

⁵⁸Nazzaro, 2001, 134–66, esp. 133–34; Ricciardi, 1:281–87 (on 1660).

⁵⁹The engraving measures 408 x 360 mm. The drawings (ca. 1657–60) are in Rome's Biblioteca Nazionale Centrale, MS Ges. 562, fols. 162^r and 164^v. See Laurenza, 2018a.

⁶⁰See Cocco, 2013, 153–56.

widely circulated *Mundus Subterraneus*, which he wrote in Rome. The *Mundus* is a grandiose description of the structure of the earth—in particular of its interior, which he envisions as crisscrossed by channels of fire and water. Volcanoes, in Kircher's view, function as chimneys (*Pyrophyllacia*) for the inferno below. The work includes a rich, hybrid iconography, with both realistic landscapes and diagrams.⁶¹ Kircher underlines the importance of his visit to Vesuvius for the treatise by publishing the image at the beginning, immediately after the title page and the dedication. The sight of Vesuvius's fiery crater seemed an extraordinary and frightening “wonder” to Kircher and was the stimulus for the journey into the “hidden secrets of nature” (“*abscondita latentis naturae sacramenti*”) recounted in the book. But it also unveiled a “subterranean world” inhabited by fires that were teleologically necessary in the divine order of nature, or its “economy” (*oeconomia*), just as solar fire was necessary to the external world.⁶²

Every aspect of nature, ordinary and extraordinary, manifested a divine order. This fascination with the marvelous aspects of nature and the underlying divine order coexists with the empirical interest in the growth of a mound at the bottom of the Vesuvian crater in the years following the 1631 eruption. Kircher measured the internal dimensions of the crater with a pantometer and illustrated this orogenetic event on a large (two-page) plate depicting Vesuvius in section. The aim of this study and its representation of orographic changes was not to offer a global dynamic vision of the earth's orogenesis. In fact, according to Kircher, the basic structure of the earth, provided by the great mountain “skeletons,” had been created once and for all by God—any subsequent changes were superficial and secondary. Even the biblical Deluge had not altered the basic structure of the earth.⁶³ However, the emphasis on the Vesuvian image and the relevant chapter at the beginning of the treatise seem to betray Kircher's strong interest in what was happening to the mountain, which, long after the first divine creation, seemed to change, vanish, and then be reborn. Moreover, the focus of the plate was not a single eruption but the morphological evolution of a volcano over time.

This specific focus explains why Kircher was less interested in presenting Vesuvius within the context of an artistic landscape. The small diagrammatic inset depicting the morphological evolution of the crater in the 1632 engraving in Carafa's book (fig. 1) became the real focus. Kircher reduces the landscape frame to a minimum—eliminating, for example, the representation of

⁶¹ Keller; Godwin, 47–58.

⁶² Kircher, *Praefatio*, chapter 3.

⁶³ Kircher, 67–69, esp. 69: “Montes fuerunt ante Diluuium.” See Morello; Nummedal.

Mount Somma. Spatially speaking, the generic surrounding landscape is disproportionately dominated by Vesuvius alone, sectioned to show the inner crater.

Kircher represents the growing *monticulus* (little mountain) inside the crater as a globular formation at the bottom of the chasm. He witnessed its emergence in 1638 and was then informed of its partial destruction following the 1660 eruption.⁶⁴ From his studies, he draws more general conclusions, as Giuliani had done before, about the history of Vesuvius and hypothesizes that Vesuvius was originally formed by eruptions, like the emerging cone inside the crater and that, likewise, it might disappear in the future.⁶⁵

The idea of a gradual evolution of the structure of the earth as a whole, absent in Kircher, is affirmed in the so-called “theories of the earth,” shaped by a number of philosophical, theological, and scientific currents, from Fludd’s esoteric Neoplatonism and chemistry to Descartes’s godless mechanism and Burnet’s opposing attempt to reconcile the earth’s divine and natural history.⁶⁶ The dynamic images illustrating these theories of the earth are necessarily schematic.⁶⁷ Only Burnet’s illustrations have slightly more realistic features (fig. 6). Burnet hypothesized that the final conflagration of the earth, which is portrayed after the figure showing the continents, would start from two specific places: Vesuvius and Etna.⁶⁸ However, scholarship has not yet succeeded in tracing an interaction between Burnet’s thinking and Vesuvian iconography.

One common aspect between Burnet’s work and the Vesuvian iconographic tradition is the coexistence of scientific and religious aspects. Alongside the prevailing natural phenomena (orographic changes, volcanic clouds and lightning, pyroclastic flows, etc.), Perrey’s images include a more human event—namely, the miraculous appearance of San Gennaro. This hybridity aligns with the nature of the texts, which present a mixture of scientific, religious, sociopolitical, literary, and erudite themes.

⁶⁴The representation of the growing cone after 1631 also appears in the plate of *Continuatione De’ Successi Del prossimo Incendio del Vesuvio* (Naples: Francesco Paci, 1661). For a detailed analysis of this text, see Everson, 719–22; see also Laurenza, 2018b.

⁶⁵Kircher, 27 (*Praefatio prima*, chapter 3 [“De Montiis Vesuvii . . .”]).

⁶⁶Robert Fludd, *Utriusque cosmi maioris scilicet et minoris methaphysica* (Oppenheim and Frankfurt, 1616); René Descartes, *Principia Philosophiae* (Amsterdam, 1644); Thomas Burnet, *Telluris Theoria Sacra* (London, 1681) (*The Theory of the Earth* [London, 1684]). See Magruder; Rossi; Poole; Toulmin and Goodfield.

⁶⁷See Magruder.

⁶⁸Burnet, book 3, 35–43, 55–61 (on Borelli, see especially 39). See Magruder, 245–52; and Poole, 160.

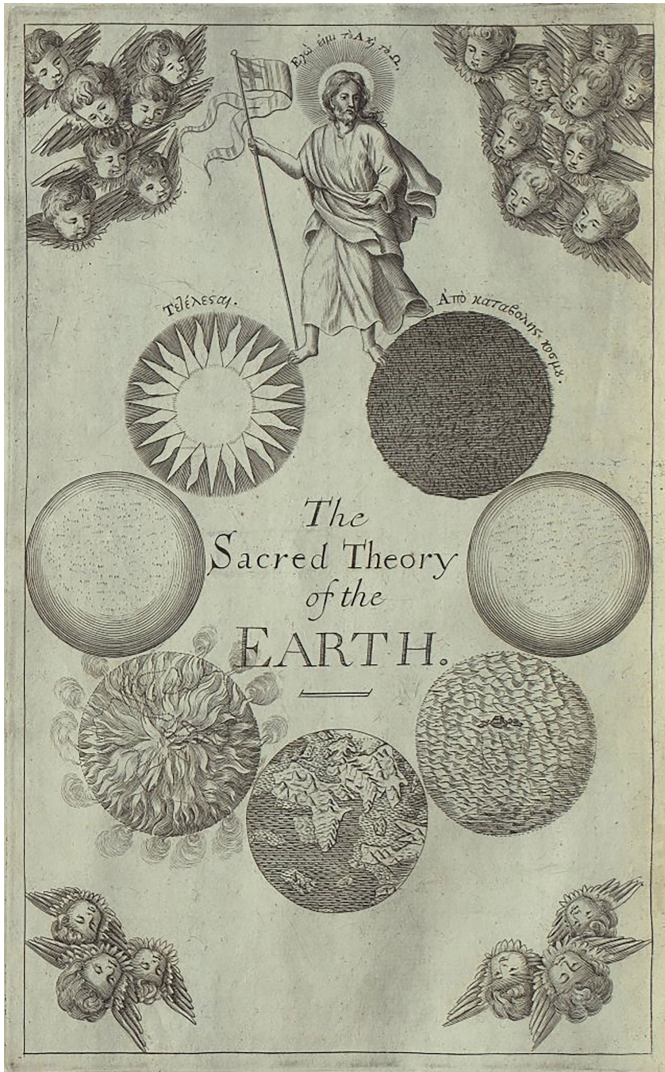


Figure 6. Images of the earth representing the before and the after of the Deluge and of the final conflagration by fire, on the title page of Thomas Burnet's *The Theory of the Earth* (London: R. Norton for W. Kettilby, 1684–90), engraving.

Burnet's famous title page reads, *The Sacred Theory of the Earth*, and the vignettes illustrating the “history of the earth” are surmounted by the figure of Christ (fig. 6). Likewise, Perrey's depictions of the “history of the landscape” include the figure of San Gennaro (figs. 1–4). Both Perrey's and Burnet's images

are united by their thematic richness—in particular, by their combination of geological (to use a modern term) and theological content.

At this point, it is fitting to add a few remarks to what existing scholarship has said about the religious side of Perrey's Vesuvian prints. The addition of the ampulla to the figure of San Gennaro in the engraving illustrating the post-eruption landscape in Mascolo's book evokes, with more precision than the engravings illustrating Carafa's and Giuliani's books, a moment with key social and religious resonances: the miraculous disappearance of the volcanic clouds from Naples following the famous procession with the saint's relics, which included, precisely, the ampulla with the martyr's blood (fig. 4). Compared to the 1632 engraving (figs. 1, 3), a more precise allusion to the miraculous event may also be the addition of the volcanic clouds to the right—that is, in the opposite direction to Naples (fig. 4). Giuliani's and Carafa's texts do not dispute the miraculous parting of the volcanic clouds from Naples, while Mascolo seems more skeptical, noting the re-forming of the clouds immediately afterward. All three present the saint's apparition as something not experienced directly but referred to by others—Giuliani defers to the decision of the religious authorities for a definitive judgment.⁶⁹ In any case, the inclusion of San Gennaro in the illustrations seems to allude to both miraculous events. If the texts allowed more freedom of interpretation, it seems that the images, which were more immediately and widely received, were more susceptible to influence from the religious and political establishments.

THE DEVELOPMENT OF PERREY'S ICONOGRAPHIC FORMULAS: FROM BULIFON TO HAMILTON

As is well known, Perrey's images were reproduced in later texts on Vesuvius—for example, in Giuseppe Maria Mecatti's *Racconto storico-filosofico del Vesuvio* (Naples, 1752) and Luigi Palmieri's *Il Vesuvio e la sua storia* (Naples, 1880).⁷⁰ The use of Perrey's images as visual evidence of a previous eruption is certainly interesting in itself. But their role as an iconographic model for the representation of dynamic processes is truly noteworthy, and is a topic scholarship has yet to address.

The French-born Antonio Bulifon (1649–1707) was an important printer active in Naples and a leading cultural figure with widespread connections to

⁶⁹ Giuliani, 94–97; Carafa, 34–35. On Mascolo, see Everson, 713–14. See also Cocco, 2013, 62–68.

⁷⁰ Furchheim, 105–06.

the Republic of Letters.⁷¹ Bulifon's Vesuvian images directly develop the dynamic premises of Perrey's 1632–33 engravings—in particular, the serial formulas employed in Giuliani's and Mascolo's texts (figs. 7–8). A plate published by Bulifon in 1693 appeared as an illustration for his 1689 letter concerning the eruption of that year, but it is in fact a historical reconstruction of Vesuvius's changing form since 1631 (fig. 7).⁷² Bulifon does not mention his source, but it is clear that he draws from Perrey's 1632–33 engravings, in the split version used by Giuliani and Mascolo (figs. 2–3). Another pair on the same plate applies the split formula again, this time illustrating the state of the crater before (inner cone not visible from the outside) and after the eruptions of 1685 and 1689 (cone higher than the crater and therefore visible from the outside). Bulifon's illustrations of the cone's growth inside the crater, and the subsequent reconstruction of the crater as a whole, come at a later point than Kircher's, and are therefore more advanced. In Bulifon's hands, the 1632–33 engravings become both visual documents of a previous eruption and an iconographic model for the representation of later orographic variations. Bulifon's images are novel in their simultaneous inclusion of four figures/phases on the same plate. But they are also clearly an outgrowth of the serial approach to rendering dynamic landscapes established by Perrey in 1632–33.

A similar iconographic formula of multiple images/figures on the same plate is used in a print illustrating two later works by Bulifon (fig. 8).⁷³ The main image represents the eruption of Vesuvius in 1694, which Bulifon witnessed directly. The two smaller images represent the state of the volcano before and after the 1631 eruption, reconstructed on the basis of Perrey's 1632–33 engravings.⁷⁴ The plate, drawn by the renowned painter Giacomo del Po (1654–1726) and engraved by his sister Teresa del Po (1649–1716), is artistically more refined than the one in Bulifon's 1693 publication. In 1683, the family had moved from Rome to Naples, where Teresa often worked as an engraver for Bulifon.⁷⁵ Del Po interprets Perrey's images freely, but retains the essential data. It bears emphasizing, however, that Bulifon asks the two artists to create a simultaneous representation of successive phases of the Vesuvian landscape and its continuously changing aspect on the same plate. Giacomo del

⁷¹ Cortese; De Caro; Cocco, 2013, 177–78. On Bulifon's Vesuvian texts, see Nazzaro, 2001, 135–37; Ricciardi, 1:300; and Everson, 725–26.

⁷² *Antonio Bulifon al M. rev. P. D. Gio. Mabillon dell'Ord. Bened. ecc. ragguagliandolo del spaventevole moto del Monte Visuvio successo il mese di dicembre 1689*, in Bulifon, 1693, 174–78.

⁷³ Bulifon, 1694 and 1696. The etching is 277 x 410 mm (outline, excluding margin). See Minozio, 1990, 267; Amodio.

⁷⁴ Everson, 725–26, noted the general dependence on the images produced during the 1631 eruption.

⁷⁵ P. Toscano; Minozio; Davoli; Leccia.

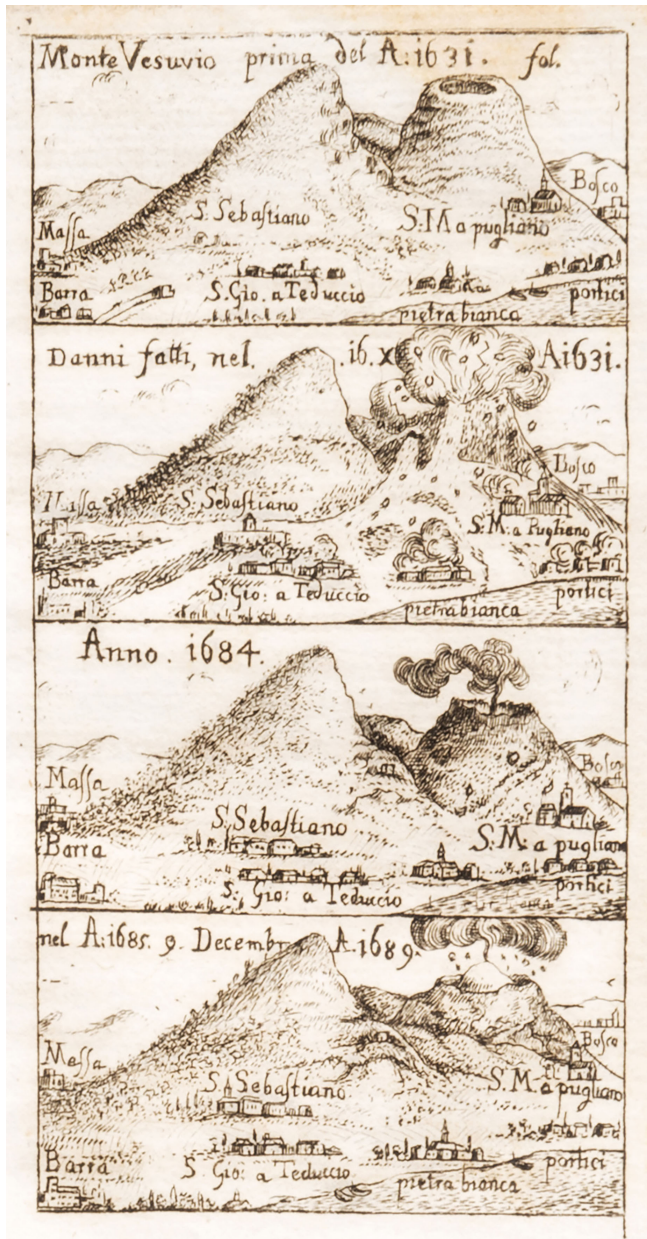


Figure 7. Serial representations of Vesuvius's changing form between 1631 and 1689, in Antonio Bulifon, *Lettere memorabili, Raccolta seconda* (Naples: Antonio Bulifon, 1693), 174–75, engraving, University of Rome, Institute of Philosophy.



Figure 8. Giacomo del Po (draftsman) and Teresa del Po (engraver), depictions of Vesuvius in 1631 and 1694, in Antonio Bulifon, *Raguaglio istorico del incendio del Monte Vesuvio...*, (Naples: Antonio Bulifon, 1696), engraving. Zürich, ETH-Bibliothek.

Po was part of the group of scholars and scientists with whom Bulifon used to explore Vesuvius (group excursions to the volcano became much more popular during the eighteenth century).⁷⁶ Bulifon often visited the volcano in the company of scientists or educated men traveling in Naples (the Grand Tour would increase the number of occasional explorers of Vesuvius) as well as, importantly, artists who were then contracted to create images for his treatises.⁷⁷

In both the 1693 and 1696 books, Bulifon eliminated the figure of San Gennaro portrayed in his source (figs. 3–4, 7–8); however, his text does mention the miraculous events that occurred during that eruption.⁷⁸ He was

⁷⁶“On 21 [April 1694] then on Wednesday I returned there again with the most learned priest S. Giacomo Fodero, with the celebrated and famous painter Giacomo Del Pò and with Chirico Filippo, my son, bringing with us some clay to shape the model of Monte” (“Il 21 [aprile 1694] poi Mercordì vi ritornai di nuovo coll'eruditissimo Sacerdote S. Giacomo Fodero, col celebre e famoso Dipintore Giacomo Del Pò e col Chirico Filippo mio figliuolo, portando con noi della creta per formare il modello del Monte”): Bulifon, 1699, 68. An example of a sculptural representation of Vesuvius is alluded to here.

⁷⁷See Bulifon, 1696, 67, 68, 73–74, 80.

⁷⁸See Bulifon, 1696, 28–29.

sensitive to popular sensibilities, and, as a printer, he also published devotional texts. His decision to exclude the religious component of the image is significant in this case because it appears to have been motivated by a desire to enhance the purely descriptive and comparative function of the images—to depict the evolution of Vesuvius's shape between 1631 and 1694. In the absence of the text's nuances and ambiguities, the images communicate the most important information with immediacy and clarity.

The divide between religious and scientific depictions and descriptions would become clear in the eighteenth century, when many authors expressed skepticism and began to distance themselves from the socioreligious components of the eruption—not only in their images but also in their texts. This happens, for example, in the case of Giovanni Maria Mecatti and William Hamilton.⁷⁹ As mentioned above, Mecatti published Perrey's images from 1631, but on account of the text's documentary intent, he edited out the figure of the saint.

The publication of the first illustrated works by Giuseppe Maria Mecatti (eighteenth century) and Giovanni Maria Della Torre (1710/13–1782) marked the beginning of the golden age of Vesuvian scientific iconography.⁸⁰ Compared to seventeenth-century representations, these works contain numerous illustrations, which interact closely with the texts they accompany. Only recently have Mecatti and Della Torre become the subject of studies attempting to historically frame their work.⁸¹ Della Torre, who was born in Rome, spent many years in Naples, where his scientific studies were punctuated with various cultural appointments in the Bourbon government (including time as librarian and head of the royal printing house). The Tuscan Mecatti was a scholar with various interests. Both he and Della Torre were fascinated by history and became involved in the rediscovery of ancient Herculaneum and Pompeii at the foot of Vesuvius, confirming the well-known link between antiquarianism, history, and nascent earth sciences.⁸²

Della Torre's first Vesuvian treatise includes eight plates, for a total of eleven images, in the form of large, folded sheets placed at the end of the

⁷⁹Mecatti, 21, 224, 205–06, 262; Hamilton, 1779, 12 (1779 eruption): “Numerous processions were formed in the streets . . . insisting loudly upon the relics of St Januarius being immediately opposed to the fury of the Mountain; in short the populace of this great city began to display its usual extravagant mixture of riot, and bigotry.” See also Hamilton, 1779, 15, 20 and 28; and Hamilton, 1776, 29 (1767 eruption).

⁸⁰Della Torre, 1755; Mecatti, 1752.

⁸¹Toscano, 2009, 217–43; Cocco, 2013, 192–205; Baldini. On Della Torre's Vesuvian plates and their influence, see Laurenza, 2023–24.

⁸²On this link, see Rappaport; Rudwick, 2005, 181–238, 275–88.

volume.⁸³ Upon opening the volume to the images, readers easily observe them in connection with the text, where they are often mentioned. The images are an integral part of the growing empirical approach to the study of Vesuvius. The drawings for the engravings, “taken carefully with the optical camera, were then exactly finalized on the spots themselves,” writes Della Torre, adds,

It would be desirable that the Ancients had spoken less about Vesuvius and left the different images of those times to us, or that those they made were more accurate and close to reality: they would have thus spared us the effort of tracing the true ancient form in the midst of a forest of useless words, of exaggerations, of expressions said with emphasis and far from the truth, of rhetorical and often poetic concepts, which make it very difficult to extract the true ancient state of this Mountain from their books.⁸⁴

In this passage, Della Torre’s frustration with having to reconstruct the ancient form of Vesuvius from written texts is clear. The exception, of course, are Perrey’s engravings of 1632–33, which he explicitly mentions.⁸⁵ These are only ones he considered more “accurate and close to reality.”

Both Della Torre’s and Mecatti’s books contain a new type of geohistorical representation: the stratigraphy of old and new lavas (fig. 9).⁸⁶ Flows of different periods, seen from various points of view in the various plates, are differentiated by varying densities of hatching: the darker and more vivid the tone, the more recent the flow. The year of each lava flow is indicated using a system of reference numbers. These landscapes partly renounce the realism of the eighteenth-century *veduta* in the service of representing temporal processes. Much like Perrey’s print for Carafa, Della Torre’s plates are hybrid landscapes that use diagrammatic inserts with tonal or chiaroscuro variation.

William Hamilton’s *Campi Phlegraei* (Naples: Pietro Fabris, 1776 and 1779) represents the most developed stage of Vesuvian iconography in the eighteenth century. Hamilton (1730–1803) arrived in Naples in 1764 as

⁸³The plates have different sizes.

⁸⁴“I disegni delle quali presi accuratamente colla camera Ottica, sono stati di poi con esattezza compiuti ne’ luoghi stessi. . . . Sarebbe desiderabile che gli Antichi avessero meno parlato del Vesuvio e lasciati a noi li diversi prospetti di quei tempi, o alcuni essendovene, che questi fossero più accurati e simili al naturale: avrebbero in questa guisa risparmiata a noi la fatica di rintracciare la vera antica forma in mezzo ad una selva di parole inutili, di esagerazioni, di espressioni dette con enfasi e lontane dal vero, di concetti oratorj e spesse volte poetici, che rendono difficilissima l’impresa di ricavare dai loro libri il vero antico stato di questa Montagna”: Della Torre, 1–2.

⁸⁵E.g., Della Torre, 1755, 63–64.

⁸⁶Plate 4 is 415 x 280 mm.



Figure 9. Giuseppe Aloja, Vesuvius: new (1754: nos. 6, 7 [dark flows]) and old lavas (1717, 1712, 1730, 1751: nos. 1, 2, 3, 8 [light-tone flows]), in Giovanni Maria della Torre, *Storia e fenomeni del Vesuvio* (Naples: Giuseppe Raimondi, 1755), plate 3.

English ambassador and remained there until 1800. His activity as a collector of antiquities and volcanologist and the central role he played in the culture of Naples in the second half of the eighteenth century have been widely studied.⁸⁷ From an art historical point of view, the authorship of the plates of *Campi Phlegraei*, attributed to the artist Pietro Fabris (1740–before 1794) and not, as long assumed, to Philip Hackert, has been clarified, while recent archival research has shed light on how the hand-colored etchings were produced under the direction of Fabris, who was also the publisher.⁸⁸ These plates are certainly the best-studied Vesuvian printed images, described by Nicola Spinosa as among the finest examples of artistic *veduta* in eighteenth-century Naples. They have also been studied by historians of geological iconography as examples of “proxy pictures.”⁸⁹ However, their indebtedness to earlier Vesuvian iconography, especially in their visualization of temporal processes, has never emerged in these studies.

⁸⁷See, e.g., Jenkins and Sloan; Knight, 1990; Wood; M. Toscano 2009, 42–58; Ciancio, 2009, 63–71; Laurenza, 2020c and 2024; and Leone and Mazzocca.

⁸⁸Knight, 1990, 140–52; Knight, 2000, 34–35; Beck Saiello, 2008.

⁸⁹Spinosa, 17. Rudwick, 1976, 154–55, 173; Rudwick, 2005, 35–37, 75–76; Ciancio, 2009, 63–71.



Figure 10. Pietro Fabris after a drawing by William Hamilton depicting serial and simultaneous views of successive forms of Vesuvius's crater between 8 July 1766 and 29 October 1767, in William Hamilton, *Campi Phlegraei: Observations on the Volcanos of the Two Sicilies* (Naples: Pietro Fabris, 1776), plate 2, hand-colored etching. Zürich, ETH-Bibliothek.

In one of the plates, the progressive changes in Vesuvius's shape during the eruption of 1767 are represented using an original adaptation of Perrey's visual methods—namely, serial presentation (seven successive images, each representing a given shape-phase of Vesuvius), simultaneous presentation (dotted lines in each image evoke the shapes previously assumed by the volcano), and the addition of diagrammatic inserts to a landscape image (fig.10)⁹⁰

⁹⁰Hand-colored etching, 390 x 215 mm.

In Hamilton's plate, unlike the one used by Perrey for Carafa's treatise and by Della Torre for his lava stratigraphies, the diagrammatic insert employs dotted lines in place of varying shades. Paula Findlen has recently highlighted the conceptual and visual importance of the Sicilian painter and scientist Agostino Scilla's use of dotted lines in his *La Vana speculazione disingannata dal senso* (Vain speculation undeceived by sense, Naples [Messina?]: Andrea Colicchia, 1670–71).⁹¹ Scilla used this visual system for the first time in paleontology to hypothetically reconstruct missing parts of fossils. Findlen rightly notes that there is no known precedent for using this important visual formula in visualizing natural dynamic processes.⁹² In this regard, then, Hamilton's plate constitutes a further development. The dotted-line technique also appears in the geological diagrams by Nicolas Steno, which are likewise temporal since they show the pre- and post-diluvial earth (*De Solido Intra Solidum Naturaliter Contento Dissertationis Prodromus* [Introduction to a dissertation on the solid structure contained within another solid structure], Florence, 1669), and in the plate depicting the 1669 eruption of Mount Etna in Giovanni Alfonso Borelli's *Historia et meteorologia incendii Aetnaei anni 1669* (History and meteorology of the fire on Mount Etna in 1669, Reggio Calabria, 1670). In the latter case, within a realistic landscape, the dotted line shows the changes undergone by Etna's summit following the eruption.

As far as Hamilton is concerned, even the landscapes in *Campi Phlegraei* that avoid any diagrammatic elements retain a dynamic and temporal sense. Hamilton identified two geohistorical markers compatible with the artistic *veduta*: one botanical, the other orographic. More luxuriant vegetation marked land that resulted from ancient eruptions, whose products had had time to generate fertile soil. Orographically speaking, a mountain with a less preserved conical shape signified an extinct volcano that was older than a mountain with an intact cone, because it had been eroded by atmospheric agents over a longer period.⁹³

The plate devoted to Etna makes use of both temporal markers (fig. 11).⁹⁴ The more developed vegetation at the foot of the volcano indicates older soil, consisting of lava that has had time to transform into fertile soil. Similarly, some mounds at the base of the volcano exhibit a pointed cone shape, indicating that they emerged more recently than those with rounded, eroded apices.

⁹¹ Findlen.

⁹² Findlen, 101n5. See also Laurenza, 2022, 231–33, 247.

⁹³ See Hamilton, 1776, 38–39.

⁹⁴ Hand-colored etching, 390 x 215 mm.



Figure 11. Pietro Fabris, view of Mount Etna from Catania, in William Hamilton, *Campi Phlegraei: Observations on the Volcanos of the Two Sicilies* (Naples: Pietro Fabris, 1776), plate 36, hand-colored etching. Zürich, ETH-Bibliothek.

CONCLUSION

This article has traced the emergence, as early as the first half of the seventeenth century, of two iconographic approaches to orographic dynamics in Vesuvian landscapes: serial and simultaneous images depicting changes brought about by an eruption. During the course of the seventeenth and eighteenth centuries, these formulas were repeatedly used and further developed. Two aspects specifically characterize these Vesuvian temporal landscapes: realism and a predominantly naturalistic, non-anthropocentric focus. The first aspect distinguishes them from the increasingly diagrammatic character of geological iconography (including Vesuvian iconography from the nineteenth century onward), and the second sets them apart from artistic landscapes of ruins and from most of disaster iconography.

Only a few authors have been considered in this article. Much work remains to be done to understand what has hopefully proven to be one of the most interesting and one of the least-known developments in the history of the artistic landscape—and, more generally, in the relationship between art and science.

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