Introduction

Camilla Erculiani, a Woman and a Natural Philosopher

The Other Voice

In the sixteenth century, although natural philosophy was primarily a male domain, the circulation of vernacular translations of ancient texts and conversations conducted outside the university in academies and informal settings enabled women to participate in conversations about natural philosophy. The Paduan apothecary Camilla Erculiani took part in this vernacular movement. She is one of the “other voices” who challenged the dominant male culture and demonstrated that women, too, could learn, understand, and even produce scientific knowledge. Erculiani’s unique and exceptional Letters on Natural Philosophy (printed in Krakow in 1584), presents her hypothesis about the material causes of the Great Flood, gives expression to a woman’s voice, and speaks from the perspective of a person in society who might not be expected to engage in scientific discussion. Positioning herself on an equal footing with contemporary male natural philosophers, she vies forcefully with their theories, often contradicting them, and defends her own opinions as a woman, sometimes against acclaimed authorities. While early modern Italian society acknowledged certain women as capable of learning basic science and philosophy, it was rare for women to publicly elaborate their own theories. It was even more unusual for a woman to insist on presenting herself as a natural philosopher, as Erculiani did.

What might have inspired and empowered a woman living in Padua at the end of the sixteenth century to write a work of natural philosophy in the vernacular? First, the lively and stimulating context of Padua and its famous university certainly inspired Erculiani to develop her interest in natural philosophy. Additionally, Erculiani must have had formative encounters and conversations within the context of her pharmacy in Padua. She continued these conversations in the form of epistolary exchanges with physicians and philosophers, which contributed to her sense of herself as a scholar. Finally, Erculiani engaged with a program of reading, including both the Bible and books of natural philosophy, which equipped her to pursue her studies.

When Erculiani published her Letters on Natural Philosophy in 1584, women had already become an established part of the Italian literary tradition. Following the enormous successes achieved in the 1540s and 1550s by women authors of

1. Erculiani, Lettere di philosophia naturale, translated in this volume as Letters on Natural Philosophy. On women and science in early modern Italy see Ray, Daughters of Alchemy.
lyric poetry on the Petrarchan model, and especially by Vittoria Colonna (1490–1547), women of the later sixteenth century devoted themselves to a range of literary genres, displaying their literary abilities and publishing their works. As Virginia Cox has pointed out, early modern Italian women writers enjoyed a great deal of liberty to experiment with literary genres, which reached an apex in quality, quantity, and variety between the end of the sixteenth and the beginning of
the seventeenth centuries.\textsuperscript{2} This freedom was probably due, paradoxically, to the diffusion of devotional literature during the Counter-Reformation. Devotional literature was a traditionally feminine genre that allowed an increasing number of women to write and publish works which were often, but not exclusively, devotional in nature.\textsuperscript{3} This favorable situation was the literary background for Erculiani’s 1584 publication.

Another important source of encouragement for Erculiani was the rapidly growing genre of male-authored instructive and didactic vernacular philosophical literature published over the course of the sixteenth century. Inspired largely by Aristotelian natural philosophy, these works made philosophy available to a larger audience of non-experts, and in most cases these texts were addressed specifically to a female audience. To a certain extent, Erculiani’s work was a result of the diffusion of this genre of literature, which she referenced in her \textit{Letters on Natural Philosophy}. However, Erculiani also went beyond the aim of these works. While didactic texts made science and philosophy more easily understandable and accessible to women, they did not necessarily intend to transform women into philosophers—the status Erculiani aspired to achieve. In the late sixteenth and early seventeenth centuries, other women authors, including Moderata Fonte (1555–1592), Margherita Sarrocchi (1560–1617), and Lucrezia Marinella (1571/79–1653), were inspired by this genre of vernacular scientific literature and grappled with natural philosophical questions.\textsuperscript{4} Camilla Erculiani, however, was the only woman writer of her time to publish a book with a philosophical argument that introduced new scientific theories.

By publishing her letters, Erculiani participated publicly in the contemporary intellectual world of her time. Her apothecary shop, or pharmacy, in which she likely met scholars and discussed philosophical matters from which women were usually excluded, was a space that straddled the public and private realms—a space beyond the domestic environment, but one where her public voice was presumably limited to a small group of people. Her correspondence with several scholars was certainly also a means of expressing her point of view, but these relationships were also, as far as we know, one-on-one, and presumably the manuscripts of her letters did not have a wide circulation. Printing her book, therefore, constituted an important step toward Erculiani’s public expression of her views as a woman and as a natural philosopher. Erculiani positioned herself as an example for other women by speaking to a broad audience outside her own, safe, environment. Yet publishing abroad in Krakow, printing only a limited number of copies, and couching her prose in the epistolary genre ensured that Erculiani’s work

\textsuperscript{2} See Cox, \textit{Women’s Writing in Italy}.
\textsuperscript{3} See Virginia Cox, \textit{The Prodigious Muse: Women’s Writing in Counter-Reformation Italy} (Baltimore: John Hopkins University Press, 2011).
\textsuperscript{4} See in this Introduction, 64–67.
would not have the same impact and visibility as a more traditional philosophical treatise printed in Venice. Doing so, however, was the safest and perhaps the only possible way for her to disseminate her ideas as a new author. Unfortunately, these choices did not ultimately protect Erculiani from the Inquisition, and she was not allowed to publish the additional treatises she had planned and which might have won her widespread recognition as a philosopher.

Written in Italian, Erculiani’s *Letters on Natural Philosophy* served a double function: it presented a new scientific theory and demonstrated that women could participate in the discourses of science and philosophy as equals to men, thus setting an example for other women to follow. These features of Erculiani’s work make it stand out and illuminate the development of the relationship between women and science. Erculiani’s book is part of a larger story brought to light by investigations of other contemporary women authors including Moderata Fonte, Maddalena Campiglia (1553–1595), Lucrezia Marinella, and Maria Gondola (late sixteenth century). Connections between such women authors, whether actual or merely hypothetical, are particularly intriguing since they reveal the tendency, shared by many women, to express a dissenting voice in relation to dominant discourses.

Erculiani is also unique as the only known sixteenth-century example of a woman to have been accused of heresy on the basis of having written a work with a scientific argument. Her provocative philosophical demonstration of the natural origins of the Flood brought her to the attention of the Paduan Inquisition. The single surviving document that sheds light on this inquisitorial process is an important and rare testimony to the way that the Inquisition acted in a confrontation with a female author of a scientific and philosophical text. While the inquisitorial archives are full of cases brought against women accused of witchcraft and men accused of having expressed theories and doctrines contrary to the Catholic faith, this is the only case of a woman accused of having expressed heretical ideas in a book of natural philosophy. Erculiani’s story offers many opportunities for reflection on early modern philosophical debates, on the role of women in them, and on the relationship between science and religion in late sixteenth-century Padua.

There are only five surviving copies of Erculiani’s *Letters on Natural Philosophy*, which is probably one of the reasons modern scholars neglected her work for so long. Recently, Axel Erdmann included it in an inventory of texts by European women, and it was listed in an appendix to the volume *Nel cerchio della luna* edited by Marina Zancan. Paulina Buchwald-Pelcowa cited the

5. For Maria Gondola, see in this Introduction, 63–64.
6. For Erculiani’s inquisitorial trial, see in this Introduction, 96-106.
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*Letters on Natural Philosophy* in an essay on the circulation of Italian books in Poland, and Virginia Cox described it briefly in her book on women’s writing in Italy in the Renaissance. Yet in works by Jelena Bakić, Lydia Barnett, Eleonora Carinci, Cristina Marcon, Sandra Plastina, Meredith Ray, and Maude Vanhaelen, Erculiani’s work has now begun to command the extended interest and recognition it deserves. Recently, in addition, Lisa Kaborycha published one of Erculiani’s letters in English translation, and Eleonora Carinci, the editor of this volume, published a modern edition of the Italian text. The present translation is an important next step in the process of acknowledging the special importance of Camilla Erculiani’s work. In addition to making a rare text available to students and scholars, it contributes to our understanding of the intertwined histories of science, the Catholic Church, and women in early modern Europe.

**Speziala at the Tre Stelle: Padua, Natural Philosophy, and Women**

During the fifteenth century, the University of Padua established a distinguished reputation in the disciplines of medicine and philosophy, and during the sixteenth and seventeenth centuries it became an especially important center for philosophical debate. A number of celebrated intellectual figures studied and taught at the university, including Pietro Pomponazzi (1462–1525), Nicolaus Copernicus (1473–1543), Cesare Cremonini (1550–1631), and Galileo Galilei (1564–1642). When Camilla Erculiani published her *Letters on Natural Philosophy*, Aristotelian philosophy was central to intense debates that would soon lead to the so-called Scientific Revolution and to the infamous trial of Galileo. Paduan Aristotelianism traditionally held a materialistic view of nature and of the human being that was distant from metaphysical and theological interpretation. During the sixteenth century, this approach gradually evolved into an investigation of nature based on experience rather than on *a priori* principles. One philosophical debate among Paduan scholars concerned the problem of the composition and immortality

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(or mortality) of the soul. Some followed the Alexandrist position, inspired by Aristotle's commentator Alexander of Aphrodisias (3rd century CE), which stressed the materiality of the soul and hence saw it as mortal. Others took the opposing Averroist view, which argued for a single, separable intellect, or soul, common to all humankind. Pomponazzi, and later Cremonini, to cite only the most famous examples, adopted the Alexandrist position and used it to demonstrate the mortality of the soul—a view that was condemned by the Catholic Church. This controversial Alexandrist position is reflected in some of Erculiani's ideas.

Concurrently, there was also an open debate in Padua about Platonism, in which the philosophers Bassiano Lando (?–1562) and Sebastiano Erizzo (1525–1585) participated, promoting Plato and his philosophical method. Yet another contemporary debate surrounded how texts by Galen and Plato, in addition to Aristotle, should be used to teach medicine and philosophy. This discussion took place within the lively Paduan Accademia degli Infiammati, which included among its members Alessandro Piccolomini (1505–1578), Ludovico Dolce (1508–1568), and Girolamo Ruscelli (c. 1518–1566), all promoters of the diffusion and popularization of philosophical thought. This Paduan impulse to reconsider Plato and Platonic philosophy was another of the intellectual currents that may have influenced Erculiani.

The late sixteenth century was a moment of great cultural transformation, and the need for change within the scientific community was becoming increasingly urgent as new discoveries and theories revealed the limits of Aristotelian natural philosophy. At the same time, the Catholic Church and the Inquisition scrutinized the ideas of natural philosophers and astronomers to silence new scientific discourses perceived to be dangerous and potentially heretical. Theology and natural philosophy were becoming increasingly incompatible, and the tension between them would come to a head a few decades later with the investigation of Galileo's theories and that thinker's subsequent trial. Camilla Erculiani likely felt compelled to insert herself into these debates because of interactions with physicians and philosophers in her shop where she worked as a self-proclaimed woman apothecary, inventing her own word speziala, in the frontispiece of the Letters on Natural Philosophy.

Although the role that Paduan pharmacies played in the exchange of ideas is sparsely documented, it is likely that the situation in Padua was similar to


pharmacies in Venice, which Filippo de Vivo has described as places where one came to meet people and to discuss politics, religion, and science.\(^\text{15}\) There were many pharmacies located near the university in Padua, and Erculiani's pharmacy alle Tre Stelle ("at the Three Stars") was also situated near the Palazzo del Bo, where university lectures were held and where students and professors of different nationalities discussed medicine and natural philosophy.\(^\text{16}\) According to the Statutes of the Faculty of Arts, students of medicine were required to participate in "exercises" in the "usual pharmacies."\(^\text{17}\) It is therefore possible that the pharmacy of the Erculiani family was also a venue for lessons and that Camilla herself had the chance to assist in teaching medical students. Antonio Favaro has posited that physicians and scientists at the beginning of the seventeenth century, including Galileo, visited several Paduan apothecary shops, including the one all'Angelo ("at the Angel").\(^\text{18}\) Pharmacies even posted the subjects of upcoming debates that were to be held in the university. On September 18, 1600, Camilla's husband, Giacomo Erculiani, served as a witness at the conferral of a degree in philosophy and medicine of a certain Quintius from Brescia, which was presented by no less than Cesare Cremonini.\(^\text{19}\) Giacomo's participation further confirms the close relations between the pharmacy at the Tre Stelle and the students of medicine and natural philosophy at the University of Padua. The same "Giacomo at the Tre Stelle" was also mentioned in the college student text of 1582, Lamento del Bo per la partenza degli scolari da Padova (Lamentation of the Bo for the Departure of Scholars from Padua), which indicates that Giacomo was relatively well-known to the students at the university.\(^\text{20}\)

It is possible that through the pharmacy alle Tre Stelle, Erculiani had the opportunity to learn a smattering of philosophy, participate in the debates around her, and take part in a public space from which women were normally excluded. Apothecaries were neither simple artisans nor just shopkeepers; they were part of

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15. See de Vivo, "Pharmacies as Centres," 505–21. Most of the examples of pharmacies that de Vivo discusses come from the archives of the Venetian Inquisition. If the archive of the Paduan Inquisition had not been destroyed by Napoleon's troops in 1797, there might be similar archival stories about Paduan pharmacies.


a privileged category of people with a specific education and training. They needed to collaborate with doctors, and they were among the “public” people worthy of a level of respect. Camilla Erculiani’s case is particularly interesting because she was a woman who exchanged ideas and maintained epistolary relationships with physicians and philosophers while cultivating an interest in natural philosophy.

Erculiani’s decision to publish her book in Krakow, Poland, could represent an attempt (which ultimately failed) to avoid the attention of the tribunal of the Inquisition in Padua. It also demonstrates a certain awareness on the part of the author and those who advised her of the potentially heretical contents of the text. Although Krakow was reputed to be a location for false imprints, Erculiani’s *Letters on Natural Philosophy* were actually published there, likely because of contacts Erculiani made *alle Tre Stelle* or through the network of people with whom she maintained epistolary exchanges. In the sixteenth century, relations between Padua and Poland were very close, especially in the academic realm. Since the thirteenth century, many Polish students and scholars had attended the University of Padua, where they engaged with Italian scholars and enrolled in courses of study, especially in the sciences. Polish italicophilia reached its peak during the Polish Renaissance between 1535 and 1585, the time during which Erculiani was active. Stephen Báthory (1533–1586), the king of Poland from 1576–1586, was celebrated as a patron and sponsor of Italian intellectuals and especially of physicians with reformed leanings. Báthory had traveled to Padua between 1568 and 1575, and he brought with him the Paduan Anabaptist Niccolò Bucella (1520–1599) as his personal physician. It is likely that through her pharmacy Erculiani came into contact with Polish students or connected with people in Poland who, in turn, helped her publish her manuscript there. This possibility is further confirmed by Erculiani’s dedicatory letter to the queen of Poland, Anna

21. See Richard Palmer, “Pharmacy”; and for a contemporary view, Borgarucci, *La fabrica de gli speciali*. See also Tomaso Garzoni, *La piazza universale de tutte le professioni del mondo*, rev. ed. (Serauale di Venetia; ad instantia di Roberto Meglietti, 1605), 661–65, in which apothecaries are praised for their medicinal expertise.


23. See Domenico Caccamo, *Eretici italiani in Moravia, Polonia, Transilvania, 1558–1611: Studi e documenti* (Florence: G. C. Sansoni; Chicago: Newberry Library, 1970). Note also that in 1583 the physician Ippolito Zucconello edited and published in Venice two collections of poems by Italian authors in praise of the king of Poland: the *Viridiarium poetarum*, and *Del giardino de’ poeti*; the latter included a sonnet by Moderata Fonte.

Jagiellon (1523–1596), in which she recounts how she came to know of the virtues of the dedicatee through the accounts of her subjects.25

Erculiani’s book was printed at the Stamperia di Lazaro (Lazarus’s print shop), better known in Krakow as the Officina Lazari. This print shop primarily published books in Latin, including such philosophical texts as the Pymander of Hermes Trismegistus.26 By comparing the Letters on Natural Philosophy with other books published in Poland in the same year by the same printer, it is possible to identify the use of identical capital initials. This kind of typographical analysis demonstrates unequivocally that the book was published in Krakow and was not a false imprint composed by a tricky Venetian printer.27 The owner of the print shop, Jan Januszowski (1550–1613), was certainly in Padua in 1575 when he assisted as a witness at the graduation of a Polish compatriot who was receiving his degree in medicine.28 It is therefore possible that Erculiani or one of her friends knew the printer personally.

The Letters on Natural Philosophy frequently refer to people with connections to Poland whom Erculiani might have met or known through intermediaries. Andreas Schonaeus (1552–1615), the author of a short Latin encomium that was published with Erculiani’s Letters, earned his university degree in Krakow in 1584 and then obtained a position in the same university.29 On March 10, 1597, Schonaeus was a witness at a graduation in philosophy at the University of Padua, and in 1603 he was included in a list of noteworthy Polish authors.30

25. See Letters on Natural Philosophy, 126.
27. See for example Tranquillus Parthenius Andronicus, Ad optimates Polonos admonito (Krakow: Officina Lazari, 1584), 23 (letter E); Pymander, book 3, De ente, materia, forma, & rebus metaphysicis, 357 (letter S). On the frontispiece of the edition of Erculiani’s Lettere there is a coat of arms of the Polish-Lithuanian Commonwealth (established in 1569), while in other texts published in the same years in the Officina Lazari, there is a woodcut by Georg Joachim Rheticus (Jerzego Joachima Retyka, 1514–1574) of an obelisk erected near Krakow sometime around 1555.
28. See Acta graduum, IV.2:664–65, #1016. He may also have studied at Padua, but his name is not among the list of graduates.
29. Andreas Schonaeus was the author of an eclogue written following the death of the king of Poland, the Daphnis seu de funere magni Stephani I, regis Polonorum (Krakow: Piotrkowczyk, 1588), and of epigrams in honor of famous members of the Academy of Krakow, of which he was a member. In 1587 he also published an edition of Albertus Magnus’s Summa philosophiae naturalis (Krakow: Stanislai Socolaulii, 1587).
30. See Acta graduum, IV.4.2021, #3207; and Simon Starovolscius, Scriptorum polonicorum hekatontas, seu centum illustrium Poloniae scriptorum elogia et vitae (Frankfurt: Zetter, 1625), 117–18. See also
We do not know if Erculiani ever met Schonaeus, but it is possible that he was
involved in some capacity in the publication of the *Letters*, especially since in 1581
he had published his own first book with the same press. There is also another
connection through Martin Berzeviczy, to whom the last of Erculiani’s letters is
addressed. Berzeviczy (1538–1596), a Hungarian by birth, was a counselor and
chancellor to the king of Poland and had come to Padua in 1568.

Erculiani was writing at a particularly propitious moment for women
writers, which enabled Erculiani to dedicate herself to philosophy, to obtain the
support of her friends, and to develop the necessary self-confidence to publish.
As Virginia Cox has noted, the end of the sixteenth century witnessed women’s
increasing interest in the sciences, especially in the Veneto. This tendency was
facilitated both by the availability of many Italian translations and paraphrases
of writings by ancient authors and by the proliferation of natural philosophy
compendia that were explicitly directed to an audience that could not read Latin,
which the vast majority of women could not do. Further, sixteenth-century Italy
witnessed a general opening of the cultural system to new individuals, including
women, allowing for greater diffusion, consumption, and production of a vari-
ety of texts in the vernacular. Among these works, Antonio Brucioli’s transla-
tions of Aristotle and the numerous paraphrases, compendia, and reworkings of
Aristotelian texts contributed to the diffusion and development of new ideas and
theories. Similarly, Sebastiano Erizzo translated some of Plato’s dialogues into
Italian, making Platonic philosophy available for a larger audience.

Finally, a number of intellectuals—above all in the Academies—produced
important works of natural philosophy that were specifically addressed to women.

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32. Cox, *Prodigious Muse*, 237–38; Cox, *Women’s Writing in Italy*, 161–62. See also Ray, *Daughters of
Alchemy* for discussions passim of women from the Veneto.
33. On the question of the opening of the literary system to women in the sixteenth century, see Cox,
*Women’s Writing in Italy*, and Carlo Dionisotti, “La letteratura italiana nell’età del concilio di Trento,”
34. On the dissemination of Aristotelian thought to a larger audience, see Sgarbi, “Aristotle and the
People.”
35. For a bibliography of vernacularizations of Aristotle, including Brucioli’s translations, see the
“Vernacular Aristotelianism in Renaissance Italy Database,” a collaborative project by the University
of Warwick and the Warburg Institute, funded by the AHRC (Arts and Humanities Research Council),
and completed in 2014: see <https://vari.warwick.ac.uk/>.
36. See Vanhaelen, “What is the Best Method to Study Philosophy?”
Alessandro Piccolomini’s work was of particular importance in this context. Perhaps inspired by many contemporary literati who had positioned themselves as promoters and patrons of women authors and favored the greater participation of women in the Italian literary enterprise, Piccolomini paid great attention to readership in his works. He went on to declare openly in various places, including in the dedication to his *L’instrumento de la filosofia* (*Instrument of Philosophy*), that philosophy should be made available to women:

I intend to benefit many people who I know to be of most excellent intellect and philosophically inclined, but who know no other language than Italian, their mother tongue…. And women also, in whose virtue Aristotle thought half of the happiness of the city could reside, remain deprived and stripped bare of those habits which could make them happy. This happens by no fault of their own but because of the custom in Italy that women do not learn languages other than that which they acquire from their wet-nurses, and they are therefore unable to read and appreciate how great are the virtues expected of them.

In his dedication of *De la sfera del mondo* (*The Sphere of the World*) to Madonna Laudomia Forteguerri, Piccolomini reiterates the same point:

I suppose that the only reason Your Ladyship could not understand these things is that the Latin language was hidden from you, the fault of this defect of our age, since philosophical books are not written in

37. Piccolomini’s works on natural philosophy include: *Della grandezza della terra e dell’acqua* (Venice: Giordano Ziletti, all’ingegna della stella, 1558); *L’instrumento de la filosofia; La prima parte della filosofia naturale; Seconda parte de la filosofia naturale* (Venice: Vincenzo Valgrisi, alla Bottega d’Erasmo, 1554); *De la sfera del mondo*. On Piccolomini’s popularizations of scientific concepts, see Caroti, “L’Aristotele italiano” di Alessandro Piccolomini,” 361–401; Letizia Panizza, “Alessandro Piccolomini’s Mission: Philosophy for Men and Women in Their Mother Tongue,” in *Vernacular Aristotelianism in Italy*, 57–73; Helena Sanson, *Donne, precettistica, e lingua nell’Italia del Cinquecento: Un contributo alla storia del pensiero linguistico* (Florence: Accademia della Crusca, 2007), 162.

38. Brucioli, for example, refers to “nobili intelletti che della greca lingua non hanno cognizione,” without, however, mentioning female readers: in Brucioli’s translation of Aristotle, *Del cielo et del mondo* (Venice: Per Bartholomeo Imperatore, 1552), fol. a7r. On Piccolomini’s interest in women readers, see Panizza, “Alessandro Piccolomini’s Mission.”

39. “[Intendo] giovare a molti ch’io conosco d’intelletto buonissimo, et atto a filosofare; i quali non sapendo altra lingua che la italiana lor materna … Le donne parimenti, nella virtù de le quali vuole Aristotele che il mezo del felice stato de le Città risegga, non essendo costume in Italia di far loro apprender’ altra lingua, che quella che da le Nutrici imparano, restan per questo prive, et ignude senza lor colpa di quelli habiti, che far le potrïen felici. Nè possan leggendo imparare di quanta forza sieno le virtù che lor convengano.” Piccolomini, *L’instrumento della filosofia*, fols. a2r and a4v.
our language, nor are women allowed to learn the language in which that knowledge is found, with the result that many women are barred from undertaking the study of the best and finest written works.\textsuperscript{40}

The number of editions of Piccolomini’s works are a testimony to their success and circulation, and Erculiani perfectly embodied the public to which he referred. Erculiani’s citation of Piccolomini’s \textit{La seconda parte della filosofia naturale (The Second Part of Natural Philosophy)} in one of her own letters confirms that she had read or at least heard about Piccolomini’s works.\textsuperscript{41}

Piccolomini was the first to suggest in a methodical way that scientific arguments were reading suitable and advisable for women,\textsuperscript{42} although other authors also addressed works on natural philosophy in the vernacular to women. In 1552, Nonio Marcello Saia (fl. 16th century) from Salerno dedicated his \textit{Ragionamenti sopra la celeste Sfera (Discourses on the Celestial Sphere)} to Margaret of France, Duchess of Berry (1523–1574). In the dedicatory letter, the author underlined his aim to offer the dedicatee a “small compendium” of astronomy in “common, not affected Italian language” (\textit{lingua italiana comune non affettata}).\textsuperscript{43} A few years later, Alfonso di Ulloa dedicated his translation of the Spaniard Juan de Jarava’s educational treatise on natural philosophy to the noblewoman Cecilia Contarini, equating the work to nothing less than a devotional text, the object of women’s reading par excellence:

\begin{quote}
Most noble Madonna Cecilia, if you liked the book of the lives of the Holy Patriarchs that I wrote in our native Italian and sent to you, I consider it no less valuable than this book which I send you now and which, if not spiritual or religious, is nevertheless contemplative and full of divine natural things.\textsuperscript{44}
\end{quote}

\textsuperscript{40} “Essendo che sola cagion che V. Signoria non habbia possuto cose sapere, stimo io che sia l’esserle stato ascosa la lingua latina, colpa della mal usanza de i nostri tempi, la qual dapoi che le scientie non son nella lingua nostra, né vieta ancora che le Donne non apprendin quella lingua, in cui le si trovano e così ne impedisce che molte Donne non venghin ne gli studii de le lettere eccellentissime e rare.” Piccolomini, \textit{De la sfera del mondo} (Venice: Nicolò Bevilacqua, 1561), fols. A2v–A3r.

\textsuperscript{41} See \textit{Letters on Natural Philosophy}, 145.

\textsuperscript{42} Discussing philosophical concepts in the vernacular to make them accessible to people who could not read Latin, including women, was also one of the aims of Dante’s \textit{Convivio}: see the \textit{Convivio}, in Dante Alighieri, \textit{Opere minori}, 2.1, ed. Cesare Vasoli and Domenico De Robertis (Milan: Ricciardi, 1995), 9.5.

\textsuperscript{43} Nonio Marcello Saia, \textit{Ragionamenti sopra la celeste sfera} (Paris: Franciscus Bartholomaeus, 1552), fols. a2v–a3r.

\textsuperscript{44} “Se vi piacque nobilissima Madonna Cicilia il libro de la vita de’ Patriarchi Santi, che già vi mandai scritto da me nella nostra volgar lingua Italiana, non meno reputo che vi debba esser caro questo, che ora vi mando, il quale, se ben non è spirituale, o religioso, è nondimeno contemplativo e pieno di cose
First published in 1584, the *Discorsi sopra le Metheore d’Aristotele* (*Discourses on the Meteors of Aristotle*) by Niccolò Vito di Gozze (Nikola Vitov Gučetić; 1549–1610), a nobleman and scholar of the Republic of Ragusa (present-day Dubrovnik), is another scientific text in the vernacular intended to be read by women. The dialogue is dedicated to “the gentle lady Fiore Zuzori, no less beautiful than she is virtuous,” and the author of the dedicatory letter is Maria Gondola, Gozze’s wife. The dedication is a short treatise that discusses the superiority of women and in which several traditional themes demonstrate the excellence of the dedicatee: the beauty of the female body, which reflects the beauty of the soul; the etymology of the name “woman”; the weak “complexion” of women which makes them more ready to receive “things that can be understood”; and examples of illustrious women from antiquity who distinguished themselves through their wisdom and through the study of philosophy and Greek and Latin letters. Gozze’s treatise, in the form of a dialogue between the author and Michele Monaldi, offers a simplified version of Aristotle’s *Meteorology*, describing the characteristics of the elements, comets, atmospheric phenomena, rivers, oceans, winds, earthquakes,

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46. Gondola’s *Lettera alla non men bella che virtuosa Fiore Zuzori*, ed. Eleonora Carinci, appears in Carinci and Plastina, *Corrispondenze scientifiche*, 81–92; an English translation is forthcoming in Gabrielli, *Renaissance Women’s Writing Between the Two Adriatic Shores*. On Ragusan culture and the role of women, see Stuard, *A State of Deference*, 111 and passim. Note also that Niccolò Vito di Gozze was additionally the author of the *Dialogo della bellezza*, detto Antos and the *Dialogo dimore detto Antos* (Venice: Francesco Ziletti, 1581), in which Fiore Zuzori [Flora Zuzzeri] and Maria Gondola figure as interlocutors. Fiore Zuzori (1552–1648) was a noblewoman from Ragusa, a lover of arts, and a writer of sonnets, who married the Florentine nobleman Bartolomeo Pescioni in 1577; see Simeone Gliubich, *Dizionario biografico degli uomini illustri della Dalmazia* (Vienna: Rod. Lechner; Zara: Battara e Abelich, 1856), 323. Maria Gondola [Mara Gundilić] was the daughter of Ivan Gundulić (1507–1585); see Cox, *The Prodigious Muse*, 216, 261, and 357n7. On meteorology in the vernacular, see Craig Martin, “Meteorology for Courtiers and Ladies.”

47. Complexion here is used in the Galenic sense meaning the balance of humors in the body, and does not refer, as today, to the appearance of the skin.

48. The letter mentions Arete of Cyrene, daughter of Aristippus; Theoclea [Theokleia], sister of Pythagoras; Carmenta [Carmentis], mother of Evander; Plato’s pupils Lasthenia of Mantinea and A xothea of Phlius; Mirthis, queen of Lidia; Cornificia, sister of the poet Cornificius; Lelia Sabina, daughter of the consul Sulla; and Cornelia, the mother of the brothers Gracchi. Erculiani also mentions some of these women in her dedicatory letter to the queen of Poland, discussed in this Introduction at 78–85.
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and the rainbow, among other subjects. It takes a didactic approach aimed at disseminating Aristotelian texts to a large public of non-specialists and also emphasizes women's abilities, offering them the opportunity to demonstrate their own capacity to understand scientific texts and produce knowledge.

The dedication to a woman, presented under the name of another woman—Maria Gondola—not only demonstrates the author's interest in appealing to women readers, but also points to a connection between women's writing and the role of women in contemporary culture and science. In order to show the superiority of women, Gondola reuses full passages of the Sicilian Girolamo Camerata's *Questione dove si tratta chi più meriti onore, o la donna, o l'uomo*, as well as of Antonio de Guevara's *Aureo libro di Marco Aurelio*. Though the text of Gondola's letter is not particularly original and is comprised primarily of passages from other authors' writings, it is still important because it relied on a woman's voice to express a strong argument about women's education and about the possibilities available to them for learning and writing about philosophy. As will be seen, Gondola's letter also shares some similarities with Erculiani's work.

Several women writers responded to this genre of works promoting scientific knowledge addressed to and adapted for women. Sister Fiammetta Frescobaldi (1523–1586), a Dominican nun in the convent of San Jacopo di Ripoli in Florence, testifies to the impact of Piccolomini's project on women readers in her *Sfera dell'universo* (*Sphere of the Universe*), a large cosmological and geographical compendium, partially inspired by Piccolomini's *Sfera del mondo*. Frescobaldi was an invalid and therefore spent most of her life reading, translating, and writing. Her interests were varied; in addition to the *Sfera dell'universo*, she wrote chronicles, works on history and geography, compilations of curiosities, and lives of

49. Camerata's *Trattato dell'honor vero, et del vero dishonore* (Bologna: Benacci, 1567) includes in its extended titles "three questions," of which one, named here, is the relative worth of men and women: *Con tre questioni qual meriti più honore o la Donna, o l'Uomo. O il Soldato, o il Letterato. O l'Artista, o il Leggista; Antonio de Guevara, Aureo libro di Marco Aurelio con l'horologio de' principi, in tre volumi*, trans. Alfonso de Ulloa (Venice: Lorenzini, 1562). Further discussion of this work is found in this Introduction at note 111. See also the notes to Maria Gondola's letter in Carinci and Plastina, *Corrispondenze scientifiche*, 81–92, where all Camerata's and Guevara's passages used by Gondola are quoted.

50. See in this Introduction, 78–85.

saints. While history and geography were her favorite topics, she also maintained an interest in astronomy and meteorology, which feature in the first part of the *Sfera dell’universo* and in the rigorous records of meteorological and astronomical phenomena she kept in her journal.\(^\text{52}\) Frescobaldi drew extensively on texts by a range of authors and always cited these sources meticulously. She wrote in a clear and precise hand, and her manuscripts included dedicatory letters and paratexts. None of her writings were ever printed, however, and their circulation was likely limited to the confines of her convent. In her *Cose prodigiose e calamitose del mondo* (*Marvelous and Calamitous Things in this World*), Frescobaldi explained that through her compilation she intended to make knowledge available to other nuns who lacked the time necessary to read many books and who were unable to read Latin.\(^\text{53}\)

Frescobaldi’s *Sfera dell’universo*, dealing with both cosmography and geography, includes five books divided into nine parts inspired by various authors.\(^\text{54}\) As the author herself declared, the first part in the first book, titled *La Sfera del mondo* and completed in 1568, was based entirely on the 1561 edition of Piccolomini’s *De la Sfera del mondo*, which also included the treatise *De le stelle fisse* (*On the Fixed Stars*).\(^\text{55}\) Although Frescobaldi did not add much to Piccolomini’s text and her work did not circulate beyond her convent, her *Sfera* exemplifies the reach of Piccolomini’s text not only to a general audience of women but even to cloistered women. Frescobaldi’s manuscript is evidence of how a contemporary woman reader understood and engaged with Piccolomini’s text. At the same time, the work is also built on Piccolomini’s project to make cosmography understandable for women: Frescobaldi aimed still further to simplify Piccolomini’s work in order to make it easier for the other nuns—her own, very particular, audience.

Other woman writers also demonstrated their knowledge of natural philosophy in printed works. The second day of Moderata Fonte’s dialogue *Il merito delle donne* (*The Worth of Women*), written in 1592 and printed posthumously in

\(^{52}\) See Pierattini, “Suor Fiammetta Frescobaldi,” 58 (1941), 232–33.


\(^{54}\) For a description of the manuscript, which is held in a private collection, see Cattaneo, Murano, and Weaver, “Fiammetta Frescobaldi,” 176–77.

\(^{55}\) “Venne nelle mie mani il libro intitolato *della sfera del mondo*, composto da m.re Alessandro Picholuomini sanese, scritto da esso con molta dottrina e non minore elegantia l’anno 1561. O per dir meglio stampato.” As quoted in Weaver, Cattaneo, and Murano, “Fiammetta Frescobaldi,” 176. It is unclear whether Frescobaldi refers to the edition of the *Sfera del mondo* printed by Nicolò Bevilacqua (Venice, 1561) and dedicated, like other previous editions, to Laudomia Forteguerri, or if he refers to the edition by Giovanni Varisco (Venice, 1561) dedicated to Antonio Cocco. An essay discussing these matters, “Between Convent and Apothecary: Women Readers of Alessandro Piccolomini’s Natural Philosophy,” is in preparation by Eleonora Carinci for a volume in honor of Letizia Panizza (anticipated publication 2021).
Venice in 1600, is devoted entirely to arguing that women were perfectly capable of tackling scientific arguments when given the chance to study the relevant subjects. While the seven female interlocutors in her dialogue discussed the planets, atmospheric phenomena, plants, animals, and stones, the author’s work revealed her own command of natural philosophical knowledge. It seems likely that Fonte, too, read the works of Piccolomini and others, perhaps in the library of her uncle and tutor Giovanni Nicolò Doglioni, the author of L’anno (The Year), a text that discussed natural philosophy and contained an encomiastic sonnet by Moderata Fonte.

Several other laudatory sonnets written by women also appeared in other natural philosophy texts in these same years. Lucrezia Marinella, daughter of the physician Giovanni Marinelli, had access to her father’s library, which was almost certainly replete with books of philosophy and medicine, and she, too, referenced the natural sciences and Aristotelian thought in her own vernacular writings.

56. Women needing access to education was a leitmotiv of Moderata Fonte’s dialogue: “We have just as much right to speak about these subjects as they have, and if we were educated properly as girls (as I have already pointed out), we’d outstrip men’s performance in any science or art you care to name.” Fonte, Worth of Women, 238. For the Italian, see Moderata Fonte, Il merito delle donne, ove chiaramente si scuopre quanto siano elle degne e più perfette de gli uomini, ed. Adriana Chemello (Venice: Eidos, 1988), 170. Note also: “Many men also refuse to allow their women to learn to read and write, on the pretext that learning is the downfall of many women. As though the pursuit of virtue (which is where learning leads) led straight to its contrary, vice! What they don’t see is that what you just said about women’s dressing up can be said with even more justice about their acquiring an education. For it’s obvious that an ignorant person is far more liable to fall into error than someone intelligent and well read; and we see from experience that far more unlettered women slide into vice than educated women who have exercised their mind.” Fonte, Worth of Women, 236; Il merito delle donne, 168. For the second day of the dialogue, see Ray, Daughters of Alchemy, 75–93; and Ray, “Prescriptions For Women.”

57. Giovanni Nicolò Doglioni, L’anno, dove si ha perfetto et pieno raguaglio di quanto può ciascun desiderare si d’intorno alle cose del mondo celeste et elementare, come d’intorno a quelle de’ tempi et del calendario (Venice: Giovanni A. Rampazetto, 1587).

58. See Doglioni, L’anno, 365 n123. A sonnet by Issocratea Monte appears in Giovanni Maria Bonardo Fratteggiano, La grandezza, larghezza, e distanza di tutte le sfere (Venice: Fabio e Agostino Zoppino, 1584) and another by Margherita Sarrocchi appears in Giulio Jasolino, De rimedi naturali che sono nell’isola di Pithecusa, hoggi detta Ischia (Naples: Giuseppe Cacchi, 1588).

Marinella’s knowledge of natural philosophy is clearly visible in passages from her 1605 pastoral novel *Arcadia felice* (*Happy Arcadia*) and in her 1635 heroic poem *L’Enrico*. Marinella also owned property in Padua, and it is not unlikely that she heard something about Erculiani and her work or perhaps even read it. Further, in 1616 Marinella used the apothecary Geronimo Erculiani—possibly Giacomo’s brother, or perhaps another relative—as procuratore for some business in Padua, which establishes certain connections between Marinella and Erculiani’s family. Around the same time, the poet Margherita Sarrocchi exchanged letters with Galileo and participated in the debates on his theories. However, among this growing number of “women philosophers” of the sixteenth and seventeenth centuries who responded to Piccolomini’s ambitious goal of making philosophy available to all, Erculiani was the only one to publish a book that was entirely devoted to questions of natural philosophy and promoted her own original theories.

**Camilla Erculiani’s Life**

Biographical information about Camilla Erculiani is unfortunately scarce and fragmentary. What emerges from the few archival documents and from the text of the *Letters on Natural Philosophy* does, however, allow us to reconstruct a detailed, if incomplete, picture of her life. Camilla was the daughter of a merchant named Andrea Greghetti. She had two brothers, Giorgio and Andrea, and three sisters, Lucrezia, Isabella, and Pulisena. Andrea Greghetti was fairly wealthy; as we see in the polizza he submitted in 1562 for the 1575 census, he owned several houses and acreage that he rented and from which he returned a profit. In the early 1560s, and probably before 1562, Camilla married the apothecary Alvise Stella.
and together they had at least one child, a son named Melchiorrre or Marchioro.\(^{66}\) In a contract to lease land drawn up by Andrea Greghetti in 1566, he lists Alvise as the apothecary *alle Tre Stelle* and as a resident in Padua at the Ponte Altinate, but Alvise's name has also been crossed out in the record, presumably after his death.\(^{67}\)

It is likely that Alvise Stella was initially the owner of the pharmacy *alle Tre Stelle* and that the name of the shop was a pun on the name of its proprietor. Located in the parish of S. Andrea,\(^{68}\) the pharmacy lay in the center of Padua “across from the fishmonger” and between the Piazza della Legna and the Piazza della Paglia (now called respectively Piazza Cavour and Piazza Garibaldi) in the area near the university. Alvise Stella died sometime between 1569 and 1571, and in January of 1573 Camilla married Giacomo Erculiani, who since 1568 had been working with his brother Girolamo as an apothecary *alla Campana* (“at the Bell”), and who transferred to *alle Tre Stelle* after marrying Camilla.\(^{69}\) It is not clear who ran the pharmacy between the death of Alvise and Camilla's second marriage, but it is possible that Camilla was involved in the management of the shop. It is interesting to consider that in the various rental contracts that Andrea Greghetti drew up to lease, buy, or sell properties between 1561 and 1571, he listed himself as a merchant, fruitseller, and *casolino* (grocer), but from 1571 onwards he is listed in the sources as a “wholesaler of spices.” Perhaps it was in this year that Andrea Greghetti entered into the guild of the apothecaries in Padua, one of the many corporations of artisans and tradesmen that had been active in the city since the thirteenth century.\(^{70}\) This change of profession could have been a result of the

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66. Melchiorre (or Marchioro) Stella appears for the first time in records as the son of Camilla Erculiani and the late Alvise Stella in a bill of sale for a field in 1572. See ASPd, Notarile, Giacomo Perotto, b. 4778, fol. 660r. Camilla and Alvise’s marriage probably took place before the subscription of the polizza, because Greghetti complains about three forthcoming weddings and the relative dowries he had to provide, likely referring to those of his three younger daughters Lucrezia, Isabella, and Pulisena, which took place respectively in 1567, 1575, and 1576. Lucrezia married the stracciarolo Gaspare Dolcetto with a dowry including various goods totaling 620 lire (ASPd, Notarile, Giacomo Perotto, b. 4778, fol. 518); Isabella married the notary Andrea Tinti with a dowry of 400 ducats (ASPd, Notarile, Giacomo Perotto, b. 4780, fol. 423); Polisena married the wood carver Salvatore with a dowry of 120 gold ducats (ASPd, Notarile, Giacomo Perotto, b. 4781, fol. 249).

67. ASPd, Notarile, Giacomo Perotto, b. 4767, fol. 862r.

68. ASPd, Ufficio Sanità, b. 37, fol. 177r. The address of the pharmacy “alla Pescaria” appears in all notary records in which Giacomo Erculiani is mentioned.

69. Alvise is recorded as apothecary *alle Tre Stelle* in a chapter of the *Fraglia degli speziali* dated 1568, while Giacomo is listed as “alla Campana” (at the bell), (Padua, Archivio Storico dell’Università degli studi di Padova, Ms. AAU 757, fol. 26r). In an act dated October 6, 1572, Erculiani is identified as the widow of Alvise Stella (ASPd, Notarile, Giacomo Perotto, b. 4778, fol. 660r); her dowry contract, dated July 9, 1573, says that Giacomo and Camilla’s wedding was contracted in January 1573 (ASPd, Notarile, Giacomo Perotto, b. 4808, fol. 203r).