

Meteorology for Courtiers and Ladies: Vernacular Aristotelianism in Renaissance Italy

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From the time of Petrarch onward, a number of humanist thinkers criticized Aristotelian scholasticism for its inflexibility and conservatism. Aristotelianism, in Petrarch's eyes, was the philosophy of the universities and, as a result of its fealty, reacted to the needs of the institution rather than of society itself. The conservatism of Aristotelianism was, and is, notorious, evident in the continuing use of *quaestiones* and textual commentaries in discussions of the natural world well into the seventeenth century.¹ While it is true that large portions, even most, of Aristotelian treatises were composed within the institutional settings of universities, or later Jesuit colleges, Aristotelians nevertheless reacted to larger societal issues, and Aristotelian writings had audiences beyond universities.

¹ For the humanist critique of scholasticism and the institutionalization of Aristotelianism see: Christopher S. Celenza, "The Revival of Platonic Philosophy," in *The Cambridge Companion to Renaissance Philosophy*, ed. James Hankins (Cambridge: Cambridge University Press, 2007), 72-73.

During the sixteenth century both non-academic elites and university professors wrote vernacular Italian treatises and dialogues based on Aristotelian texts and concepts for a courtly audience. Courtiers and professors alike considered Aristotelian natural philosophy, meteorology in particular, to be vibrant and applicable to both the practical and entertainment needs of courts. These authors focused on meteorology because the field, with its emphasis on rare wonder-provoking events and practical utility, was appropriate for introducing courtly audiences to natural philosophy.²

1. The Use of Italian

While famous seventeenth-century opponents of natural philosophy of the schools, such as Galileo, Descartes, Pascal, Bacon, wrote at least some works in the vernacular, the shift from Latin to vulgar languages was not necessarily an attack on Aristotelian phi-

² For courtly interest in wonders during the sixteenth century see: Lorraine Daston and Katharine Park, *Wonders and the Order of Nature, 1150-1750* (New York: Zone, 2001), 137-159. Aristotelian meteorology was concerned with wondrous subjects as early as the fourteenth century, see Joëlle Ducos, "Théorie et pratique de la météorologie médiévale Albert le Grand et Jean Buridan," in *Le temps qu'il fait au Moyen Âge. Phénomènes atmosphériques dans la littérature, la pensée scientifique et religieuse*, ed. Claude Thomasset and Joëlle Ducos (Paris: Presse de l'Université de Paris-Sorbonne, 1988), 47-48.

losophy.³ Even though Paracelsus lambasted the Latin learning of the universities, and legal authorities struck back, not all followers of the Stagirite were staunch defenders of the use of Latin.⁴ In Sperone Speroni's *Dia-*

³ For the view that Descartes's choice of French for the *Discourse on Method* rebelled against the teachings of Jesuit colleges and Aristotelian professors, see: Elaine Limbrick, "To Write in Latin or in the Vernacular: The Intellectual Dilemma in an Age of Transition. The Case of Descartes," *History of European Ideas* 16 (1993): 75-80. For the view that Harvey wrote in English because his work considered animals and other entities unknown to Aristotle or classical authors, see: Roger K. French, "The Languages of William Harvey's Natural Philosophy," *Journal of the History of Medicine and Allied Sciences* 49 (1994): 24-51. William Eamon points to William Ryff as a popularizer of vernacular German science who intended to weaken the stranglehold academics had on medicine. See William Eamon, *Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture*, (Princeton: Princeton University Press, 1994), 96-105. Ann Blair notes that François de Fougerolles justified translating Bodin into French on both patriotic grounds and because we wanted to destabilized traditional hierarchies of learning. See Ann Blair, *The Theater of Nature: Jean Bodin and Renaissance Science* (Princeton: Princeton University Press, 1997), 206. For the link between the vernacular and novel natural philosophy in seventeenth-century Italy, see David Freedberg, *The Eye of the Lynx: Galileo, His Friends, and the Beginnings of Modern Natural History* (Chicago: University of Chicago Press, 2002), 192-194.

⁴ For the negative legal reaction to the legacy of Paracelsian promotion of the vernacular see: Pamela Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004), 158-159.

logo delle lingue (1542), it is a character based on perhaps the most famous university professor of the previous generation who makes some of the strongest arguments for dropping the study of Greek and Latin. The character, named Peretto, which was the nickname of Pietro Pomponazzi, the famed and at times controversial professor at Padua and Bologna, argues that studying Greek and Latin is "the cause of our ignorance," and that if all books were translated into the vernacular, philosophers could dedicate more time to *scientia* and less to the study of language.⁵ Speroni's dialogue, with Pomponazzi as the spokesman for the vernacular, indicates that writing Aristotelian natural philosophies in the vernacular in sixteenth-century Italy was not necessarily considered a threat to the intellectual hegemony of universities. Accordingly, its practice became widespread for meteorological writings by the end of the sixteenth century.

⁵ Sperone Speroni, *Dialogo delle lingue*, ed. Antonio Sorella, (Pesacara: Libreria dell'Università, 1999), 184 [111]: "Peretto: dio volesse in servizio di che verrà dopo me, che tutti i libri d'ogni scientia quanti ne sono greci, et latini, alcuna dotta, et pietosa persona si desse a render volgari, che per certo il numero de i boni philosophanti serebbe più spesso, che egli non è, et più rara diverrebbe la loro eccellentia."; Speroni, *Dialogo*, 186 [117]: "io dico che i studi della lingua greca, et latina, sono causa della nostra ignorantia, che se il tempo, che in loro ci demo, si spendesse da noi in imparar philosophia, havrebbe forse la nostra novella età i platoni, et gli aristoteli dell'antica, mo noi vani come canne, pentiti quasi d'haver lasciato il letto, et la culla et esser homini divenuti."

By the sixteenth century, meteorology was a subject that already diffused in Italian and French, although Aristotle's *Meteorology* was by no means the only work of Aristotle that was a basis for writings in the vernacular.⁶ Meteorology had stood at the forefront of vernacular translation movements during the Middle Ages. In the 1270s, Mahieu le Vilain translated *Meteorology* I-III, a century before Nicole Oresme composed vernacular commentaries on the *Ethics*, *Politics*, *Economics*, and *De caelo*.⁷ An anonymous translation brought the medieval commentary tradition to the Italian vernacular in the fourteenth century by paraphrasing Thomas Aquinas's and Albertus Magnus's commentaries in the Florentine dialect.⁸ In the fifteenth century, Evrart de Conty paraphrased in French parts of the *Problemata*, which included considerations of the nature of the winds and the effects of climate on health.⁹ The growth of the genre of problem literature during the Renaissance further spread meteorological knowledge during the six-

teenth century, when several authors addressed meteorological issues in Italian.¹⁰

Several authors of Renaissance vernacular meteorological works felt obliged to justify the use of Italian. Some undoubtedly hoped their writings would enjoy prominence in courts and thereby emphasized the pleasure that the study of meteorology affords. For example, Girolamo Borro, a professor of philosophy at Pisa, has the interlocutors of his dialogue on the nature of tides and the flooding of the Nile recognize that vernacular books, while not as serious as Latin ones, are good for passing the time in a pleasant manner. In his dialogue, a speaker, named Nozzolino, offered a jocular anticlerical excuse for reading the vernacular. After confessing that he knew that his more learned interlocutor, named Talascopio, never spends even the hottest days reading Dante, Petrarch, or Boccaccio but rather the books of Cicero, Julius Caesar, and Terence, he observed that books of philosophy require

⁶ For example, see Paula Olmos, "Humanist Aristotelianism in the Vernacular: Two Sixteenth-century Programmes." *Renaissance Studies* 25 (2011): 538–558.

⁷ Joëlle Ducos, *La météorologie en français au Moyen Age (XIIIe-XIVe siècles)* (Paris: Honoré Champion, 1998), 185–195.

⁸ Rita Librandi, ed., *La Metaura d'Aristotile: Volgareggiamento fiorentino anonimo del XIV secolo*, 2 vols. (Naples: Liguori, 1995).

⁹ See the essays in Pieter de Leemans and Michèle Goyens, ed., *Aristotle's Problemata in Different Times and Tongues* (Leuven: Leuven University Press, 2006).

¹⁰ For the growth of problem literature see: Ann Blair, "The *Problemata* as a Natural Philosophical Genre," in *Natural Particulars: Nature and the Disciplines in Early Modern Europe*, ed. Anthony Grafton and Nancy Siraisi (Cambridge, MA: MIT Press, 1999), 171–204; Ann Blair, "Authorship in the Popular *Problemata Aristotelis*," *Early Science and Medicine* 4 (1999): 189–227. The tradition of writing on meteorology in the Italian vernacular includes the problem literature of the fifteenth century. Girolamo Manfredi's *Il perche*, composed in the 1470s, is an example of one of the most frequently printed of such encyclopedias, which asked obscure questions often directed toward uncovering the answers to largely practical issues.

an extreme amount of diligence. So much effort, in fact, that Tuscan priests did not spend their time reading serious tracts related to Church doctrine but rather filled their days with the perusal of amorous tales and poems.¹¹ In this manner, Borro distinguished serious philosophy written in Latin from easier and more enjoyable vernacular dialogues.

Similarly, delight was a chief concern of the courtier Sebastiano Fausto da Longiano, who maintained that he chose to write a short book on meteorology because, “The material, by its own power is not only delightful, but also useful to many.”¹² The choice of Italian for this treatise was made not just for “universal benefit,” but also so that readers would be able to “walk on this very path where in brief all the concepts of philosophy could be apprehended without Greek and Latin, and in little time they could enjoy the sweet fruits of the philosophical garden.”¹³ According to Fausto, native words, with the inclusion of the occa-

sional Latin *terminuccio*, display their meaning more easily. On the contrary, reading Greek and Latin causes fatigue, which in turn creates diffidence and eventually desperation.

Other authors of vernacular meteorological treatises sought slightly more sober justifications for their use of Italian. Francesco de’ Vieri, a professor at Pisa and presence in Florentine courts, justified his use of what he called the “Tuscan, or even better the Florentine tongue,” by contending that the use of this language makes his work available for everyone to enjoy.¹⁴ The preface stresses the utility and pleasure found in meteorological studies and thereby its suitability for courtly audiences and the Prince in particular: “A science of so many beautiful and delightful things is well suited better for no one other than the Grand Prince of Tuscany.”¹⁵ He asserted that everyone is curious to know the causes of such honored and marvelous effects and that the knowledge of these effects could aid agriculture, medicine, and maritime war. Giacomo Buoni justified his use of Italian for a dialogue that discussed the recent earthquakes at Ferrara by appealing to the locality of the subject and the de-

¹¹ Girolamo Borro, *Dialogo del flusso e reflusso del mare* (Lucca: Busdragho, 1561), 13.

¹² Sebastiano Fausto da Longiano, *Meteorologia, cioè discorso de le impressioni humide & secche* (Venice: n.p. 1542), sig. aii r: “Perche tra l’altre cose de la filosofia me parve questa particella de la meteora per la materia sua potere essere non solamente dilettevole, ma utile à molti.”

¹³ Fausto da Longiano, *Meteorologia*, sig. aii v: “Patria forse auenire che altri s’incaminariano per questo medesimo sentiero onde in breve tutti i concetti de la filosofia s’apprenderebbono senza la lingua greca, e senza la latina: & in poco spatio di tempo si goderebbe de li frutti soavi del filosofico giardino.”

¹⁴ Francesco de’ Vieri, *Trattato delle Metheore* (Florence: Marescotti, 1573), 4v: “Emmi piaciuto parlare di queste cose, non meno in questa nostra lingua Toscana, ò per dir meglio Fiorentina, che io mi faccia ancora nella latina: pergiovare, & dilettere insieme ognuno.”

¹⁵ Vieri, *Trattato delle Metheore*, 2v: “la scienza di tante belle cose, & si dilettevoli, si convenga piu, che ad altra person a V. S.A. Gran Principe della Toscana.”

sire to spread knowledge of it. He wrote, “I am Italian and I speak of a matter that happened in Italy: desiring, that the matter be better known also to many of intelligence, and not only those who have been well introduced to the knowledge of Latin.”¹⁶ Lest one think that the use of Italian in philosophy runs against the desires of the Church, Buoni asserted that his uncle, a canon, advised him to do so.

These justifications provide a sense of the larger motivations of vernacular meteorological works. While the vernacularization of natural philosophy was pan-European, the authors’ goals and the character of the vernacular treatises at times exhibit local interests, just as many Latin treatises did.¹⁷ The writers of sixteenth-century Italian meteorological work wanted to transfer and transform the teachings from the highly developed Italian universities to a broader

¹⁶ Giacomo Buoni, *Terremoto dialogo* (Modena: Galdini, 1571), preface 2: “Il Dialogo ho giudicato esser bene, che sia scritto in lingua volgare Italiana, poiche io sono Italiano, & parlo di cosa avvenuta in Italia: desiderando, che la cosa possa esser nota ancora à molti begli ingegni, che non sono così bene introdotti alla intelligenza della lingua Latina, & essendo questo parimente stato parere del Canonico mio Zio, che me n’ha consigliato.”

¹⁷ For the view that the study of the vernacularization of scientific texts should be comparative see: William Crossgrove, “The Vernacularization of Science, Medicine, and Technology in Late Medieval Europe: Broadening our Perspectives,” *Early Science and Medicine* 5 (2000): 47-63. For the relation between local learning and the use of the vernacular see: Kathleen Crowther-Heyck, “Wonderful Secrets of Nature,” *Isis* 94 (2003): 253-73.

audience that was often courtly in nature, and, at times, consisted of both sexes. Italian universities, most famously those at Bologna and Padua, attracted students from across Europe because of the renown of their faculty, who often published their lectures in the form of Aristotelian commentaries. Vernacular meteorological treatises often quoted and cited these Latin works, at times consciously modeling themselves on the ideas of well-known professors; and, well-known professors wrote vernacular treatises, sometimes modifying the form and content for the courtly audience.

In the sixteenth century women were increasingly central to the intellectual discourse of the courts, and many of these meteorological dialogues reflected that growth, as their characters and dedicatees were often female.¹⁸ Aristotelian meteorology had been concerned with practical endeavors throughout the Renaissance as commentaries and handbooks often mixed theoretical discussions with explanations of their relevance to alchemy and medicine. The intermingling of these fields also marks a number of vernacular treatises, whose courtly audience was likely to have had stakes in navigational, agricultural, or military projects.

Although practical utility and delight in the wondrous were motives for rendering the subjects of the *Meteorology* into Italian, they were not the only ones. The numerous accessible examples of elements and their

¹⁸ Londa Schiebinger, *The Mind has No Sex? Women in the Origins of Modern Science* (Cambridge, MA: Harvard University Press, 1989), 17-19.

mixtures in meteorology rendered it a subject suitable as an introduction to natural philosophy. Technical language and complex concepts of Aristotelian thought easily can confuse those untrained in philosophy.

Yet, some vernacular writings on meteorology introduced the basics of natural philosophy while limiting the proliferation of obscure terms. In this manner, fundamentals of Aristotle's thought, such as the four elements, the prime qualities, and the division between the heavens and the terrestrial world are illustrated by examples found in thunder, vapors, and the tides. The relative ease of this topic, however, does not mean that all the Italian vernacular commentaries were written to those with a low level of education or philosophical sophistication.

2. Authors and Audiences

Both established courtiers and university professors wrote vernacular meteorological treatises and dialogues. An example of such a courtier is Sebastiano Fausto da Longiano, who in 1542 with the patronage of the Pallavicino family at Cortemaggiore in the Piacentino published five books, all written in Italian. The topics of several of these books clearly correspond to the exigencies of life at the court, where he gained his support. His *Gentil'huomo* discussed *virtù* in light of aristocratic custom, a topic that he would later discuss in more detail in a book on dueling and honor (*Duello regolato a le leggi de l'honore*, 1552). His *De*

lo istituire il figlio argued that examples from history, literature, and religion should be used to educate male nobility. Added to these three treatises were two efforts in transporting knowledge originally written in Greek into Italian: one was a translation of Dioscorides; the second was a compendium based on the first three books of Aristotle's *Meteorology*.

Fausto's meteorological compendium is brief and not fashioned for a scholarly audience. Rather, pleasure and ease best define his motive and tone. The work provides an introduction to natural philosophy, starting with the elements, the nature of the heavens, before moving on to the divisions of air, the exhalations, and other meteorological phenomena. While the dedication emphasizes pleasure, the treatise itself does not dwell on the marvelous and there are few obvious concessions to entertainment, beyond the pleasures inherent in learning the foundations of natural philosophy, in general, and meteorology, in particular.

Fausto's interest in meteorology was common to other courtiers, such as the Milanese courtier Camillo Agrippa, who shared interests besides meteorology with Fausto. Both wrote on martial arts. While Fausto was concerned with the relation between honor and dueling, Agrippa improved the techniques of sword-fighting, writing a treatise on fencing.¹⁹ His dialogue on meteorology, which was published in 1584 and dedi-

¹⁹ Camillo Agrippa, *Trattato di scienza d'arme. Et un dialogo in detta materia* (Venice: Pinargenti, 1568).

cated to Cardinal Aloisio d'Este, used Aristotelian concepts to explain the generation of winds and their role in the production of meteorological phenomena such as thunder, lightning, and floods.²⁰ The content hardly corresponds to the preface that emphasizes that this work will demonstrate the order of God's creation. The dialogue, however, reflects Agrippa's interest in navigation. The winds are a primary subject as are the effects of the moon, sun, and other planets and explained in a manner that refrained from excessive exploration of scholarly distinctions and theoretical disputes.

Emphases on utility and awe characterized the intent of many other vernacular meteorological works. For example, the courtier Annibale Romei identified the purpose of his work on meteorology as to explain the causes of stupendous natural appearances to common, semi-learned, and learned individuals.²¹ Stefano Brevantano's work on the

²⁰ Camillo Agrippa, *Dialogo sopra la generatione de venti, baleni, tuoni, fulgori, fiumi, laghi, valli, & montagne* (Rome: Bonfadino & Diani, 1584). For the view that Agrippa's dialogue uses non-Aristotelian mechanical explanations for the generation of the winds see: Elio Nenci, "Camillo Agrippa: Un ingegnere rinascimentale di fronte ai problemi della filosofia naturale," *Physis* n.s. 29 (1992): 89-94. For the long tradition of using turbines as an explanation for the creation of the winds see: Averroes, *De coelo*. In *Aristotelis opera cum Averrois commentariis*, vol. 5 (Venice: Giunta, 1562-74. Reprint, Frankfurt: Minerva, 1962), Bk. 1, comm. 7.

²¹ Annibale Romei, *Dialogo . . . si tratta delle cause universali del Terremoto, e di tutte le impressioni, & apparenze, che, con stupor del volgo nell'Aria si generano. . .* (Ferrara: Baldini, 1587), sig. *3v.

winds maintained that his work could be useful to sailors.²² The relation between practical endeavors and meteorology stands out in Nicolò Sagri's *Reasoning on the Variety of Tides in the Western Ocean*. Sagri was a sea captain from Ragusa and the characters in the dialogue reflect his naval background. The use of Italian probably reflects the lack of Sagri's knowledge of Latin -- he cites no Latin sources, or even Aristotle -- as well as the potential audience of sailors, who would most likely prefer a vernacular treatise.

Initially the interlocutors of Sagri's dialogue set off on an empirical discussion. The character Pedotto Biscaino, a sailor, says that he does not know enough to determine the causes of the tides and so he has "left similar speculations to the philosophers, and astrologers, and only applied himself to know the effects, since for our art (the art of navigation) it is more necessary to understand how, when, and where the water moves, than the cause of its movement."²³ Nocchiero, also a sailor, agrees with Pedotto's judgment, and in the first two books they chart out times and places where they experienced different tides, in relation to the sun, moon, and season, in an effort to pre-

²² Stefano Brevantano, *Trattato del'origine delli venti* (Venice: Camotio, 1571), 5r.

²³ Nicolò Sagri, *Ragionamenti sopra le varietà de i flussi et riflussi del mare oceano occidentale* (Venice: Guerra, 1574), 4: "ho lasciati simili speculationi à Filosofi, & Astrologi, e solo mi son forzato di sapere gli effetti suoi, poi che all'arte nostra piu bisogna intendere come, quando, & in che luoco si muovono l'acque (ilche più facilmente si conosce) che la causa del suo movimento."

dict where the tides will be in the future. In the third book a more learned speaker, named Ambrosio di Goze, gives a natural philosophical explanation for the variety of tides. He explains that the water's natural instinct is to follow the moon, and it is even more likely to follow the moon when it receives more light from the sun, that is, when it is full.²⁴ Yet Sagri's dialogue stays fairly true to its commitment to practical empirical knowledge. The causes for the tides have little impact on the entire treatise that applies knowledge taken from voyages to Flanders, Lisbon, and Dublin. Sagri stuck to the subject and the tides are not an excuse for discussing marvels, the harmony of the universe, or Aristotle's theory of prime matter.

Interest in wonder and pleasure was common to academics who participated in courtly life, while transforming university teachings. Vieri wrote the most comprehensive and learned Italian meteorological tract of the sixteenth century. His intellectual output followed a Florentine tradition that tried to reconcile the works of Plato and Aristotle.²⁵ Although for the most part he followed Aristotle, there are traces of this conciliatory stance in his commentary on the

²⁴ Sagri, *Ragionamenti*, 103: "la Luna move quelle virtualmente, e l'acque seguono à quella per istinto naturale; e piu quella volta quando la Luna riceve maggior lume dal sole nella parte risguardante l'acque è atta à riverberare quello maggiormente à esse ch'in altro te po, cioè piu nel tempo della quindecima e congiontione, e sui vicini,"

²⁵ Francesco de' Vieri, *Vere conclusioni di Platone conformi alla dottrina christiana et a quella d'Aristotile* (Florence: Marescotti, 1590).

Meteorology. The preface, dedicated to Francesco de' Medici, advertizes the author's erudition and thus his reliability. He wrote, "In order that everyone can have faith that this doctrine is true and secure, I will follow Aristotle, the master of those that know, and his best interpreters, such as all the Greeks, and among the Arabs, the great commentator Averroes, and among the Latin, Saint Thomas Aquinas, whose doctrine is brief, easy, and very secure."²⁶ In fact he does follow these interpreters. In addition, he cited more recent predecessors as examples of great philosophers, Pomponazzi, Lodovico Boccadiferro, and Simone Porzio, all of whom lectured on the *Meteorology*.²⁷

There are few concessions in Vieri's treatise to simplify the material, and except for the choice of language it is difficult to find grounds to distinguish his efforts from contemporary commentaries in Latin. Vieri brought the learning of the university, in a nearly identical form and filled with citations to writings available only in Latin or Greek,

²⁶ Vieri, *Trattato delle Metheore*, 4v: "finalmente perche ogn'uno presti fede à questa dottrina come vera, & sicura, io seguirò Aristotele Maestro di coloro che sanno, & i suoi migliori interpreti, come sono tutti i greci, & tra li arabi il gran comentatore Averroys, & tra i latini San Thomaso d'Aquino, la cui dottrina è breve, facile, & tanto sicura, ..."

²⁷ Pomponazzi's lectures are extant, Boccadiferro's printed, and Porzio's attested to. Allegedly, Porzio's lectures on the *Meteorology* were interrupted by students who wanted to hear his controversial views on the materiality of the human soul. See Angelo Maria Bandini, ed., *Clarissimorum Italorum epistolae ad Petrum Victorium* (Florence: n.p., 1758-60), 1:43.

to an audience not trained in the university. The citations of Averroes, Alexander, Olympiodorus, suggest that he thought that these views would be valued by, or at least authoritative to, those who did not have training in Latin, but who would nonetheless recognize that these commentaries were essential to contemporary interpretations of Aristotle.

While Vieri, brought the university to the court, Girolamo Borro appears to have had his own persona changed by the court. Many of the positions found in his Latin works are absent or appear to have been reversed in his *Dialogo del flusso et refluxo del mare*. Borro, a professor at Pisa in the 1550s and later during the years 1575-1586, was combative and as a result frequently entangled in disputes with Vieri; the Pisan professor Francesco Buonamici; Andrea Cammuzi, a translator of many Greek treatises; and the Inquisition.²⁸ In his short unpublished treatise *Multae sunt nostrarum ignorationum causae* he attacked those who combine Plato with Aris-

²⁸ On Borro's quarrelsome nature and problems with the Inquisition see: Paul E. Grendler, "Intellectual Freedom in Italian Universities: The Controversy over the Immortality of the Soul," in *Le contrôle des idées à la Renaissance*, ed. J.M. De Bujanda (Geneva: Droz, 1996), 39-42; Massimo Firpo, *Il processo inquisitoriale del Cardinal Giovanni Morone: Italia e Europa* (Roma: Istituto storico italiano per l'età moderna e contemporanea, 1981), 283; Ugo Baldini and Leen Spruit, *Catholic Church and Modern Science: Documents from the Archives of the Roman Congregations of the Holy Office and the Index: Volume I: Sixteenth-Century Documents*. (Rome: Libreria Editrice Vaticana, 2009), 1,1:815-17.

totle, attempt to use mathematics to understand nature, and philologists who waste time over their obsession with corrupt texts, which Borro contended were easy to emend.²⁹ His two Latin printed works often follow the lines of thought proposed in *Multae sunt causae*. In *De motu gravium et levium*, he defended Averroes' interpretation of Aristotle over Themistius's or Avempace's, both of whom integrated Platonic teaching with Aristotle. In his treatise *De peripatetica docendi atque addiscendi methodo* he attacked Platonic *diagnosis* while endorsing Aristotelian analysis and synthesis.³⁰

Borro's vernacular works seem to be the product of an entirely different personality than that of the academic polemicist. In his Italian writings, he is witty, politic, and conciliatory. These writings include a highly positive, if not sycophantic, biography of Cosimo I de' Medici and two similar versions of a dialogue on the motions of the tides and the flooding of the Nile, two standard meteorological topics.³¹ The first of these two dialogues was published under the hardly credible pseudonyms of Alseforo Talascopio and Filogenio Telifilo and dedi-

²⁹ Charles Schmitt, "Girolamo Borro's *Multae sunt nostrarum ignorationum causae* (Ms. Vat. Ross. 1009)," in *Studies in Renaissance Philosophy and Science* (London, 1981), XI, 462-476.

³⁰ Girolamo Borro, *De motu gravium, & levium* (Florence: Marescotti, 1576), 49-51; Girolamo Borro, *De peripatetica docendi atque addiscendi methodo* (Florence: Sermartelli, 1584), 37-40.

³¹ Carmen Menchini, ed., *Pangirici e vite di Cosimo 1. de' Medici: tra storia e propaganda* (Florence: Olshki, 2005).

cated to Alberico I Cybo-Malaspina and Elisabetta della Rovere, the Marchesana of Massa.³² That one of the dedicatees is a noble lady is not the only clue that Borro tried to write a treatise that would appeal to female readers. After the discussions on the causes of the tides and the flooding of the Nile, a new dialogue begins in which Filogenio addresses six female characters on the issue of the perfection of women.

The tone of the dialogue on the tides is playful, far removed from the humorless *quaestiones* or belligerent attacks found in his Latin treatises. The meteorological subjects that Borro had chosen to be the basis for his dialogue are not intended to be read with the same diligence that is required for his treatises on logical method and kinematics. Rather they are topics suitable for provoking wonder and gaining an understanding of the harmony of the world. In the 1577 version of the dialogue, where the interlocutors, including Borro and Giovanna, the Grand Duchess of Tuscany, meet in the Gardens of Pitti Palace, Borro used the problem of the tides to explain the basics of Platonic philosophy, to which he showed great hostility to in his academic writings. The inclusion of a female interlocutor, who, in the words of Virginia Cox is “guaranteed by [her] sex the right to be decorously ignorant,” permits the character Borro to explain natural philosophy in a simplified yet dignified way.³³ Cor-

dial discussion emerges, while the rivalry between Plato and Aristotle disappears. The tides demonstrate the similarities between the terrestrial world and the divine mind and are evidence that God is a perfect architect who used universal ideas to create the universe.³⁴ Later in the dialogue, Borro elaborated on Plato and Aristotle in more detail, explaining that he did not want to engage in the perpetual war of those who claim all Plato’s or Aristotle’s positions are right or wrong, as is the custom, he alleges, of those who become “very affectionate of one sect of philosophy.”³⁵ This seemingly polite neutrality was well suited to the civil pleasant-ries characteristic of courtly conduct.

The question of the flooding of the Nile gave Borro the opportunity to digress into the geography, customs, and history of Egypt, a country well known for its marvels. The question also offered him the chance to explain that Aristotle believed two vapors, one wet, the other dry and smoky, were the physical causes of all of the wondrous meteorological effects that simple people believe are miraculous. After giving the numerous views of Greek philosophers on why the Nile floods, Borro put forth his own solu-

tigione to Galileo (Cambridge: Cambridge University Press, 1992), 45.

³⁴ Girolamo Borro, *Dialogo del flusso e reflusso del mare, & dell’inondatione del Nilo* (Florence: Marscotti, 1577), 22: “Questa similitudine . . . i Filosofi Platonici chiamano Idea: & vogliono, che l’esser dello edificio nella mente dell’architetto sia molto piu perfetto, . . .”

³⁵ Borro, *Dialogo del flusso* (1577), 36-37

³² Borro, *Dialogo del flusso* (1561), sig. A ii r.

³³ Virginia Cox, *The Renaissance Dialogue: Literary Dialogue in its Social and Political Contexts*, Cas-

tion: the sun pulls a large amount of vapors into high mountains where they condense and then turn into rain when the sun reaches a certain point in the zodiac.³⁶ These dialogues, despite being fairly simple in terms of argument, nevertheless, deal with many of the basics of Aristotelian natural philosophy, including the layout of the cosmos, the nature of the elements and their natural motions, and material and efficient causation. Many complex issues are left out. For example, he claims that it is the light of celestial bodies, particularly the sun that cause the motion of the vapors, not letting the reader know that this position would be controversial among many Aristotelians who believed the motion of the sun, not its light, heats the earth.³⁷ In sum, Borro replaced scholarly dispute with topics of wonder and awe meant to charm and entertain.

The dedication of Nicolò Vito de Gozze's *Discorsi, sopra le Metheore d'Aristotele*, published in 1584, suggests that this volume might have been of interest to women and that he was following Borro's general direction in producing a dialogue suitable for courtly audiences composed of both sexes. Gozze's wife, Maria Gondola, dedicated the book to Fiore Zuzori, a *gentil donna* from Ragusa, Gozze's native city. Gondola's dedication argues that women are more physiologically disposed than men to receive the intelligible forms because their temperament is more humid and their complex-

ion softer. She then offers empirical evidence for this contention, citing examples of erudite women, taken from Boccaccio's *Book of Famous Women*.³⁸

Unlike Borro, Gozze did not make many concessions for beginners. Rather, his dialogue is didactic and monological, in that its chosen form is not exploited to offer a multiplicity of views. While it begins with a brief summary of Aristotelian natural philosophy, it assumes familiarity with metaphysical concepts, including the unmoved mover. The work follows the order of Aristotle's *Meteorology* and is comprehensive in its treatment of the topics contained in it. Citations of earlier authors are numerous and include the Greek commentators, Albertus Magnus, Thomas Aquinas, Averroes, and more recent scholars whose meteorological treatises had been printed, namely Boccadiferro and Agostino Nifo. Gozze did not take advantage of the book's dialogue form, which does little to make the book seem more playful or easier. Moreover, it is difficult to tell why he chose the *Meteorology*, beyond his contentions that the subject is noble because its ultimate causes are the celestial bodies and that it is useful for choosing building sites safe from earthquakes, for cultivation of the earth, and for understand-

³⁶ Borro, *Dialogo del flusso* (1577), 225-26.

³⁷ Borro, *Dialogo del flusso* (1577), 240-41.

³⁸ Nicolò Vito di Gozze, *Discorsi sopra le Metheore d'Aristotele, Ridotti in dialogo & divisi in quattro Giornate* (Venice: Ziletti, 1584), sigs. *4r- **2r. He used similar arguments to justify the practice of including women speakers in his *Dialogo della bellezza, detto Antos*, see Cox, *The Renaissance Dialogue*, 123.

ing how the air and water affect health.³⁹ Examples of precisely how this book can be used in such endeavors are lacking. Nevertheless, the work appears to have intended to bring the Latin teachings of the university to a broader audience in the form of an Italian dialogue.

3. Conclusion

The mere fact that an author chose the vernacular to address meteorological issues in no way determined the form, content, or complexity of a work. The motivations for choosing meteorology coincided for some who wrote in the vernacular. It was a topic that lent itself to elementary discussions of natural philosophy, its utility was manifest and broad, and its subject often marvelous. Even though most of these treatises were products of Renaissance courts, the methods of teaching the topic and its perceived usefulness were varied, yet not too distant from the scholarly disputations of the universities. The method of presentation, however, was often far removed from that of lecture halls. Fausto used Aristotle's *Meteorology* as a source to compose a brief compendium that discussed the sublunary world. Vieri brought the erudite discussion of university lectures to the courts elites. While Borro used meteorology to entertain the ladies of the court with marvels and educate them in the basics of natural philosophy. Gozze also tried to appeal to

female readers, but kept closer to the Aristotelian treatise that he was transforming. Sagri's work, however, fit closer to the world of practical learning, in which he used his knowledge of the tides gained from voyages to produce charts that aided in prediction rather than causal knowledge.

Even though there are commonalities among vernacular meteorological writing, they display a diversity of positions and goals. Vernacular Aristotelianism perhaps was no more unified or homogenous than Latin Renaissance Aristotelianism, and in these books we can find a multiplicity of objectives, including: the education of women, the preservation of medieval traditions, the distribution of the fruits of academic discussion and erudition to the courts and other locales, the demonstration of the utility of the field to practical and political domains, and even the questioning of the authority of Aristotle.⁴⁰

³⁹ Gozze, *Discorsi*, 5v.

⁴⁰ For the multiplicity of Aristotelianisms of the Renaissance see Charles Schmitt, *Aristotle in the Renaissance* (Cambridge, MA: Harvard University Press, 1983).