

Routledge Encyclopedia of the Renaissance World

Climate Theories in Italy

--Manuscript Draft--

Manuscript Number:	RERW-D-21-00047R1
Article Type:	New
Section/Category:	Society: Italy (Sutherland)
Keywords:	Aristotle; Astrology; Character; Climate; Cosmography; Counter-Reformation; Environment; ethics; Ethnography; Free will; Geography; Hippocrates; Jesuits; medicine; missions; Moral philosophy; Natural philosophy; nature; Necessity; Political thought; Ptolemy; theology; Universalism; Vitruvius
Corresponding Author:	Sara Miglietti Warburg Institute London, UNITED KINGDOM
First Author:	Sara Miglietti
Order of Authors:	Sara Miglietti
Abstract:	<p>“Climate theory” is a modern umbrella term for various historical doctrines that highlighted the impact of climatic and geographical factors (e.g., temperature, winds, relief, etc.) on human bodies, minds, and behaviours. Such doctrines were often associated with ethnic stereotyping, as different regions of the earth were thought to engender distinctive “national characters”: e.g., the gluttonous German, the vengeful Italian, the fickle French. While the origins of climate theory date back to classical antiquity, with the Hippocratic school of medicine and the theory of the humors, the early modern period is often considered the heyday of this tradition. Modern surveys of climate theory generally highlight the role played by French thinkers such as Jean Bodin (1529-1596), who wrote extensively about the impact of climate on national character and about its implications for politics and law-making. Yet climate theory was not the monopoly of any one thinker or nation. On the contrary, it circulated widely throughout Europe, crisscrossing geographic and linguistic borders through the medium of print, translation, and epistolary networks of intellectual exchange. At the same time, climate theory particularly flourished in places where universities, academies, and princely courts fostered continued engagement with ancient and medieval texts steeped in that tradition. Italy in the sixteenth and seventeenth centuries was just such a place. Doctors, philosophers, theologians, and political thinkers discussed these theories from various standpoints, sometimes engaging in heated controversies. In particular, three major points of debate were the scale at which environmental influences should be studied, the relationship between environment and ethics, and the accommodation of classical ideas to Catholic doctrine and to the missionary agenda of the Counter-Reformation Church.</p>

May 3, 2022

[SUBJECT EDITOR: Suzanne Sutherland]

Climate Theories in Italy

Sara Miglietti

The Warburg Institute, London

Abstract

“Climate theory” is a modern umbrella term for various historical doctrines that highlighted the impact of climatic and geographical factors (e.g., temperature, winds, relief, etc.) on human bodies, minds, and behaviours. Such doctrines were often associated with ethnic stereotyping, as different regions of the earth were thought to engender distinctive “national characters”: e.g., the gluttonous German, the vengeful Italian, the fickle French. While the origins of climate theory date back to classical antiquity, with the Hippocratic school of medicine and the theory of the humors, the early modern period is often considered the heyday of this tradition. Modern surveys of climate theory generally highlight the role played by French thinkers such as Jean Bodin (1529-1596), who wrote extensively about the impact of climate on national character and about its implications for politics and law-making. Yet climate theory was not the monopoly of any one thinker or nation. On the contrary, it circulated widely throughout Europe, crisscrossing geographic and linguistic borders through the medium of print, translation, and epistolary networks of intellectual exchange. At the same time, climate theory particularly flourished in places where universities, academies, and princely

courts fostered continued engagement with ancient and medieval texts steeped in that tradition. Italy in the sixteenth and seventeenth centuries was just such a place. Doctors, philosophers, theologians, and political thinkers discussed these theories from various standpoints, sometimes engaging in heated controversies. In particular, three major points of debate were the scale at which environmental influences should be studied, the relationship between environment and ethics, and the accommodation of classical ideas to Catholic doctrine and to the missionary agenda of the Counter-Reformation Church.

Keywords

Aristotle, Astrology, Character, Climate, Cosmography, Counter-Reformation, Environment, Ethics, Ethnography, Free will, Geography, Hippocrates, Jesuits, Medicine, Missions, Moral philosophy, Natural philosophy, Nature, Necessity, Political thought, Ptolemy, Theology, Universalism, Vitruvius

1. Background: climate theories in Europe

“Climate theory” (the idea that climate shapes the body and character of human beings) originated in Greece with the Hippocratic school of medicine (5th century BC). It was later developed by many other ancient writers (e.g., Aristotle, Vitruvius, Ptolemy, Galen) and reworked into a more systematic form by medieval thinkers such as Albert the Great and Thomas Aquinas, who remained important points of reference throughout the Renaissance¹.

In the early modern period, climate theories grew in both number and importance. This was partly due to the invention of print, which enabled them to spread

more quickly and widely than ever before. But other historical reasons, such as the geographical discoveries and the development of modern nation states, were involved as well. In the Age of Discovery, climate theories helped reconcile the great ethnic variety existing on earth with the notion of a single humankind descending from common progenitors.² Climate theories also provided a strategy for thinking about the local and relative (individual regions and customs) in relation to the global and universal (the whole inhabited earth; the moral standard supposedly represented by Christian and European ways of life).³ Finally, in a time of state-building and intensified international competition, climate theories offered a long-standing model for thinking about the relationship between nature and nation, and the governance of both.⁴

Climate theory must not be confused with climatology, which only developed in the nineteenth century. While climatology is a natural science that studies the climate for its own sake, climate theories existed within a worldview that did not draw neat distinctions between the natural and human realms, but rather emphasized interconnections between the two.⁵ Climate theorists were far less interested in studying climate *per se* than in exploring the numerous ways in which it seemed to affect human life. Climate, for instance, was invoked to explain why certain countries were more subject than others to mental disorders such as “melancholia” (similar to what we would now call depression); why some nations chose to govern themselves democratically while others opted for monarchical rule; why inhabitants of mountainous places were rowdier and more uncouth than those of the plains; why philosophy and religion were born in hot climates whereas northern countries excelled at craftsmanship and warcraft.⁶ Climates could also be deployed as literary tropes within cultural, religious, or political controversies.⁷ In sum, early modern climates were versatile tools situated at the intersection of science and rhetoric.

An exhaustive survey of climate theories, even limited to one country, is impossible because of their very pervasiveness and popularity. A more fruitful approach is through case studies that can highlight the specific contexts in which climate theories were discussed, while also drawing attention to major points of debate and disagreement, such as the scale at which environmental influences should be studied, the relationship between environment and ethics, and the extent to which climate theory could be reconciled with Catholic doctrine and placed in the service of the Church's global mission.

2. Cosmography *vs* topography: competing models of climate theory

Climate theories fall into different types, based primarily on the scale and method of analysis. "Zonal" or "cosmographical" theories divide up the earth into large climatic zones (hot, temperate, cold) on the basis of latitude and average insolation, more rarely also on the basis of longitude and orientation towards the rising or setting sun. In this model, the physical properties of a place, primarily its temperature, can be deduced *a priori* from its location on the grid map of the earth.

"Chorological" or "topographical" climate theories pay less attention to abstract geographical location and focus on specific landscape features. Mountains affect temperature and prevailing winds; large forests and bodies of water increase moisture in the air. Because climate depends on topography, places located at the same latitude can display completely different climatic conditions. This also means that climate cannot be conjectured from an armchair but must be studied empirically on-site.

Both models of climate theory originated in classical antiquity. The former is found in texts such as Aristotle's *Politics* and the pseudo-Aristotelian *Problems* (still considered genuine in the Renaissance), as well as in Ptolemy's astrological *Tetrabiblos*

(literally “Four-Part Book”). The latter is attested in Hippocrates’ *Airs, Waters, and Places* (often seen as the first example of environmental medicine) and in Vitruvius’ treatise on architecture. While the existence of multiple authoritative models gave early modern thinkers some room for manoeuvre, it also led to frequent disagreements among them. Very few people in this period doubted climate’s influence on humankind, but what climate meant and how it concretely operated were a matter of intense debate.

As a case in point one can take the controversy that raged in the late 1550s between two distinguished northern-Italian polymaths: Julius Caesar Scaliger (1484-1558), a classical scholar who spent much of his life in France; and Girolamo Cardano (1501-1576), a professor of medicine at the universities of Pavia and Bologna. In *On Subtlety* (*De subtilitate*, 1550), later followed by *On the Variety of Things* (*De rerum varietate*, 1557), Cardano expounded a philosophy of nature that included elements of astrology and natural magic, contradicting in many respects the Aristotelian-Galenic model still dominant in the schools.⁸ Scaliger, a staunch (though not unoriginal) Aristotelian, soon responded with a devastating point-by-point critique entitled *Exoteric Exercises against Cardano’s Fifteen Books on Subtlety* (*Exotericae exercitationes ad Cardani libros XV de subtilitate*, 1557).

Scaliger’s counterblast encompassed every aspect of Cardano’s philosophy, including his views on climate theory. According to Cardano, human beings are affected by everything that surrounds them: laws and customs (what we would call the social environment) and a wide array of natural determinants. Astral influences and varying degrees of solar intensity at different latitudes are responsible for generating distinct human types (e.g., strong but witless in the north, clever but weak in the south, agile and prudent in the temperate zone).⁹ Simply by knowing the latitude of a place, “it is

possible to speculate about the nature and healthiness of a place” and, in principle, deduce the character of its inhabitants.¹⁰

Scaliger took issue with this view. While he agreed that human beings are influenced by their natural environment, he accused Cardano of attributing too much importance to latitude and of disregarding environmental variety “under the same sky” (*sub eodem coelo*).¹¹ In other words, Scaliger was upholding a topographical model of climate theory against the cosmographical model he ascribed to his rival.

In truth, Scaliger’s objection was not entirely fair. Elsewhere in his book, Cardano did recognize the importance of topographical factors: as he explicitly wrote, “not just the region, but the specific site matters much... for the variety of the human condition.”¹² Cardano even made room for environmental history by noting how cyclical transformations in the distribution of sea and dry land (already discussed in Aristotle’s *Meteorology*) meant that the qualities of places were not stable but changed over time.¹³ In sum, Cardano’s climate theory was far more complex than Scaliger cared to admit. At least in this case, it seems that Scaliger misrepresented his rival’s views and overstated their disagreement for polemical purposes.

Still, the Cardano-Scaliger controversy offers important insights into issues of scale and methodology in early modern climate theories. It also raises the question of what made individual authors opt for one or the other model, or for a blend between the two. In Cardano’s case, his attempt at a mixed model was likely prompted by professional training as well as by personal philosophical preferences. As a practicing physician, Cardano was acutely aware of the importance of adapting one’s analytical scale to each case at hand, given that human health is affected by a great number of variables whose relevance must be assessed on a case-by-case basis.¹⁴ Cardano also had a special philosophical interest in the relationship between “general” and “particular”

causes.¹⁵ This aspect too is reflected in his climate theory, which moves between the general level of latitude and the particular level of topography.

Finally, Cardano's approach to climate theory was shaped by his penchant for ancient authors such as Hippocrates and Ptolemy. As the author of extensive commentaries on Ptolemy's *Tetrabiblos* (1554) and Hippocrates' *Airs, Waters, and Places* (1570), he may have felt compelled to reconcile the different versions of climate theory expounded in these works.¹⁶ In this sense, Cardano's reworking of climate theory must be situated in the context of the Ptolemaic and Hippocratic revivals of the sixteenth century, which were tied to shifting trends in university teaching but which also extended to non-academic contexts such as princely courts.¹⁷

3. Hippocratism, environment, and ethics

The Hippocratic revival of the sixteenth century witnessed among other things an increased engagement with Hippocratic texts that had hitherto remained peripheral to the medical curriculum, including *Airs, Waters, and Places*. Of the numerous commentaries that began to appear on this text in the second half of the sixteenth century, some (like Cardano's) were directly connected to university teaching, while others appeared in courtly contexts where Hippocratic environmental medicine was particularly valued for its immediate practical relevance.

A good example is Baccio Baldini's commentary on *Airs, Waters, and Places* (1586), written at the court of Tuscany where Baldini (1517-1589) served as personal physician to Grand Duke Francesco I de Medici. Dedicated to Francesco, Baldini's commentary frequently strays from the Hippocratic text to describe the Tuscan environment and compare it to the neighboring papal territories of Emilia Romagna and Lazio. It is also filled with practical advice on how to improve the country's healthiness:

for instance, in discussing the rivers Arno and Tiber, Baldini explains how to deal with stagnant waters to prevent the spread of “pestilential vapors.”¹⁸

It is clear that Baldini’s interest in *Airs, Waters, and Places* was not exclusively erudite: rather, he built on Hippocrates to draw a medico-environmental map of Tuscany with important governmental applications. Something similar can be said of the Milanese physician Ludovico Settala (1550-1633), whose commentary on *Airs, Waters, and Places* (1590) contributed to establishing Settala’s reputation as a public health expert. Later, in his capacity as *protomedico* of the Duchy of Milan, Settala served as the city’s main health adviser during the plague outbreak of 1630-1631.¹⁹

As these cases show, the Hippocratic revival was often connected to specific courts or centers of political power. Another example of this is Rome, where an influential school of Hippocratic medicine developed around the papal *archiater* (chief physician) Alessandro Trajano Petronio (c. 1510-c. 1585). In addition to commentaries on Hippocrates and a treatise on the properties of the river Tiber, Petronio wrote a book of health advice entitled *On the Roman Diet, and on Health Preservation (De victu Romanorum et de sanitate tuenda*, 1581), which was soon translated into Italian, and which remained popular into the seventeenth century. Dedicated to Pope Gregory XIII, the book outlined a series of diseases that Petronio considered endemic to the city of Rome on account of its peculiar topography. In particular, Petronio distinguished between the microclimate of the Roman hills – healthy and well-ventilated – and the humid, insalubrious air of the Tiber plain, where most Romans lived.²⁰ Local residents were encouraged to protect themselves from environmental illnesses such as *capiplenium* (a heaviness of the head engendered by thick “vapors” in the brain) by carefully regulating their diet and lifestyle. Aside from taking frequent walks up the

hills, they were advised to abstain from overeating, oversleeping, heavy exercise, and intense mental effort.²¹

Petronio's portrayal of the Roman climate as inherently unhealthy created a stir in the local medical community. Among Petronio's earliest critics was his own former student Marsilio Cagnati (1543-1612), a Veronese who rose to medical fame in Rome in the 1590s. In *On the Salubrity of Roman Air* (*De Romani aëris salubritate*, 1599), Cagnati cited ancient authors such as Strabo and Vitruvius to argue that Rome's "golden mean" location in the heart of the temperate zone (also represented in a woodcut: Figure 1) could be nothing else than healthful.²² Without rejecting the Hippocratic assumption of a correlation between environment and health, Cagnati reversed Petronio's logic to draw the opposite conclusion: if Rome was naturally salubrious, then disease in the city should be blamed on the poor hygiene and unhealthy lifestyles of its inhabitants.²³

<FIGURE 1 HERE>

The disagreement between Cagnati and Petronio continued to polarize medical opinion for decades, both in and outside Rome, giving rise to one of the most interesting environmental controversies in early modern Italian history.²⁴ However, one can also note important points of consensus between the two authors. While they both believed that climate affected human health, they also thought that people could – and should – make themselves less vulnerable to illness by changing how they lived. Their ideas on this point were influenced by a long tradition of weaving together medical and moral discourse in early modern Europe. The notion that protecting one's health was ultimately a matter of personal responsibility was particularly prominent in the popular

genre of “regimen books”, which explained how to adapt one’s diet and lifestyle to environmental circumstances in order to forestall disease.²⁵ Some authors even went so far as to argue that a well-chosen diet could not just preserve but improve one’s health, character, and mental skills against the natural predispositions dictated by climate. One of the most vocal proponents of this view was the Dutch physician Levinus Lemnius (1505-1568), whose *On the Hidden Wonders of Nature* (*De occultis naturae miraculis*, 1559) and *On the Condition and Constitution of the Body* (*De habitu et constitutione corporis*, 1561) were almost immediately translated into Italian and enjoyed a wide reception.

This moral approach to environmental influence remained dominant throughout the early modern period, even as growing numbers of writers – including the Florentine polymath Giovanni Battista Doni (1595-1647) – began to advocate more proactive forms of intervention by means of environmental engineering and the artificial improvement of climates.²⁶ Regardless of the specific strategies proposed for dealing with climate, what matters here is that climate was generally seen as something that *could* be dealt with – something, that is, that did not exercise an insurmountable influence on human beings but could be managed in a number of ways.

4. Catholic climate theory: free will and global mission

The notion of *manageable* environmental influences was of great importance to many early modern thinkers, anxious to distinguish climate theory from a form of environmental determinism that might jeopardize free will and moral responsibility. Echoing formulas developed in medieval scholasticism to reconcile astrology and ethics, climate theorists often stated that the environment inclined without necessitating. In other words, climate engendered physical and moral predispositions that nudged a

person to act in certain ways. Yet these predispositions could be resisted, mitigated, or even transformed through various means, which meant that individuals remained fully responsible for how they chose to behave. While this idea can be traced back to classical antiquity and the Middle Ages, it took on a new importance in the sixteenth century against the backdrop of philosophical and theological disputations over free will.²⁷ In Italy, the period of ecclesiastical and doctrinal reorganization that followed the Council of Trent (also known as the Counter-Reformation) was one of intense reflection on such matters as well as on the place of climate theory within a Catholic worldview.

Such reflections are particularly well-documented for Roman censors tasked with assessing the orthodoxy of recent books, some of which – like Jean Bodin's *Method for an Easy Understanding of History* (*Methodus ad facilem historiarum cognitionem*, 1566) or the *Examination of Wits* (*Examen de ingenios*, 1575) of the Spanish physician Juan Huarte – contained substantial sections on climate theory. The censors' written reports offer precious insights into the process through which climate theory was literally expurgated of problematic aspects and made compatible with Catholic doctrine. For instance, the Jesuit Robert Bellarmine (1542-1621), who was later involved in Galileo's trial, objected violently to Bodin's suggestion that climate might affect religious faith, as exemplified by the fact that the Protestant Reformation had taken hold in northern countries like Germany, but not in hot places like Italy. For the Catholic censor, the prospect of explaining faith through natural causes rather than God's grace was obviously unacceptable.²⁸

Like faith, there were other areas of human experience that Catholic theologians refused to explain in naturalistic terms. Another Jesuit censor, Antonio Possevino (1533-1611), operated a distinction between things that can be affected by climate – for instance, one's mental skills and professional vocation – and things that are entirely

dependent on free will, like moral states and behaviors. Vices such as “hatred, envy, greed, contempt, boredom or irritation, slander, theft and betrayal” could be found in all human beings regardless of climate or complexion, therefore (Possevino reasoned) they could not have their primary cause in either of those things.²⁹ Possevino also made it clear that whatever environmental influences did exist were not to be fatalistically endured. Education, prayer, and a wide range of “human” and “divine causes” could transform a person against natural inclinations.³⁰ Through these and other qualifications, Possevino aimed to establish clear boundaries within which climate theory could be accepted without “bringing damage to the truth of the freedom of the will and other important aspects” of the Catholic faith.³¹

Thus qualified, climate theory could – and did – form an important part of the Catholic worldview, particularly at a time in which European expansion overseas opened new horizons for the Church’s global mission. This is apparent in Giovanni Botero’s *Universal Relations (Relationi universali, 1591-1596)*, an ambitious description of all the peoples and countries of the world written by a former Jesuit turned political adviser. Here, as in his equally influential *On the Reason of State (Della Ragion di Stato, 589)*, Botero (1544-1617) built on climate theory to explore the relationship between environmental conditions and political development. Recasting insights drawn from prohibited authors such as Niccolò Machiavelli (1469-1527) and Jean Bodin (1529-1596) into a form compatible with Catholic orthodoxy, Botero elaborated a theory of government that was uniquely suited to the needs and ambitions of an increasingly globalized Church.³²

Frequently reprinted and translated into many languages, Botero’s *Relationi* fed off, and contributed to, a growing stream of Jesuit missionary literature that used climate theory to make sense of the connection between climate and character. From

the late seventeenth century onwards, such accounts began to appear in printed collections that became popular among a broad readership, less interested perhaps in their religious content than in their value as exotic entertainment or sources of ethnographic information.³³ Yet this was one of the often-unacknowledged vehicles through which early modern climate theories lived on into the Enlightenment, and beyond.

Further Reading

Lydia Barnett. *After the Flood: Imagining the Global Environment in Early Modern Europe*. Baltimore, MD: Johns Hopkins University Press, 2019. Focused primarily on epistolary sources, this book examines how the interplay of sacred and natural history in early modern Europe generated a new understanding of the global climate and of humans' relationship to it.

Cantor, David. (Ed.). *Reinventing Hippocrates*. Aldershot: Ashgate, 2001. This volume on the multiple uses and meanings of Hippocrates and Hippocratic medicine since the Renaissance includes several essays on the construction of an "Hippocratic" environmental medicine in early modern Europe.

Cavallo, Sandra, and Tessa Storey. *Healthy Living in Late Renaissance Italy*. Oxford: Oxford University Press, 2003. This monograph explores the intellectual, social, and material culture of preventive medicine in Cinquecento Italy, paying special attention to the Galenic six "non-naturals" and the relationship between air and health.

Cavallo, Sandra, and Tessa Storey. (Eds.) *Conserving Health in Early Modern Culture: Bodies and Environments in Italy and England*. Manchester: Manchester University Press, 2017. The essays in this collection offer a comparative analysis of preventive medical practices in early modern Italy and England, with a special focus on the relationship between air and health.

Floyd-Wilson, Mary. *English Ethnicity and Race in Early Modern Drama*. New York: Cambridge University Press, 2003. The book provides a compelling overview of early modern “geo-humoralism”. Though focused on England, it provides an ideal introduction to Renaissance views of the humoral body and its relationship with the surrounding environment.

Floyd-Wilson, Mary, and Garrett A. Sullivan Jr. (Eds.) *Environment and Embodiment in Early Modern England*. Houndmills and New York: Palgrave Macmillan. 2007. Though focused on England, this edited volume helpfully explores early modern views of the dynamic interconnection between the human body and the surrounding environment, and the particular epistemologies that sustained them.

Glacken, Clarence. *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century*. Berkeley, Los Angeles, and London: University of California Press, 1967. This pioneering and deeply erudite study of environmental ideas from Antiquity to the Enlightenment remains an essential reference in the field. It provides a treasure trove of information about the evolution of ideas of environmental influence over the centuries.

Miglietti, Sara. "Climate Theory: An Invented Tradition?" in *Spreading Knowledge in a Changing World*, ed. Charles Burnett and Pedro Mantas-España. Cordoba and London: CNERU – The Warburg Institute, 2019, 205-224. This essay probes the validity of "climate theory" as an historiographical concept, specifically exploring the semantic shifts of the term "climate" over the centuries.

Rouiller, Dorine. *Des airs, des lieux et des hommes. Les théories des climats à la Renaissance*. Geneva: Droz, 2021. This monograph examines the spread and transformation of "climate theories" during the Renaissance, focusing on how they were used to construct and deal with non-European peoples and places in the early stages of exploration and colonial expansion.

Siraisi, Nancy. *The Clock and the Mirror: Girolamo Cardano and Renaissance Medicine*. Princeton: Princeton University Press, 1997. This intellectual biography of Girolamo Cardano provides an excellent introduction to the interplay of medicine, astrology, and philosophy in Renaissance Italy. It also touches specifically on Cardano's climate theory.

Spavin, Richard. *Les Climats du pouvoir: rhétorique et politique chez Bodin, Montesquieu et Rousseau*. Oxford: Voltaire Foundation – Oxford University Press, 2018. Though focused on France, this study helpfully tackles the question of climate theory's rhetorical functions and highlights its multiple uses by political philosophers.

¹ Marian J. Tooley, "Bodin and the Mediaeval Theory of Climate," *Speculum* 28, no. 1 (1953): 64-83; Clarence Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century* (Berkeley, Los Angeles, and London: University of California Press, 1967).

-
- ² Surekha Davies, *Renaissance Ethnography and the Invention of the Human: New Worlds, Maps, and Monsters* (Cambridge: Cambridge University Press, 2016).
- ³ Frank Lestringant, "Europe et théorie des climats dans la seconde moitié du XVI^e siècle," in *La Conscience européenne au XVI^e et au XVII^e siècle. Actes du colloque international organisé à l'École Normale Supérieure des Jeunes filles (30 sept.-3 oct. 1980)* (Paris: École Normale Supérieure des Jeunes Filles, 1982), 206-26; Dorine Rouiller, *Des airs, des lieux et des hommes. Les théories des climats à la Renaissance* (Geneva: Droz, 2021).
- ⁴ Simone Testa, *Scipione di Castro e il suo trattato politico* (Rome: Vecchiarelli, 2012); Sara Miglietti, "Debating Greatness from Machiavelli to Burton," in *Early Modern Philosophers and the Renaissance Legacy*, ed. Cecilia Muratori and Gianni Paganini (Dordrecht: Springer, 2016), 239-258.
- ⁵ John Gascoigne, "The Royal Society, Natural History and the Peoples of the 'New World(s)', 1660-1800," *British Journal for the History of Science* 42, no. 4 (2009): 539-62.
- ⁶ Jean-François Staszak and Marie-Dominique Couzinet, "À quoi sert la 'théorie des climats'? Éléments d'une histoire du déterminisme environnemental," *Corpus, revue de philosophie* 34 (1998): 9-43; Mary Floyd-Wilson, *English Ethnicity and Race in Early Modern Drama* (New York: Cambridge University Press, 2003).
- ⁷ Richard Spavin, *Les Climats du pouvoir: rhétorique et politique chez Bodin, Montesquieu et Rousseau* (Oxford: Voltaire Foundation – Oxford University Press, 2018).
- ⁸ Alfonso Ingegno, *Saggio sulla filosofia di Cardano* (Florence: La Nuova Italia, 1980), 225.
- ⁹ Girolamo Cardano, *De subtilitate libri XXI* (Lyon: Guillaume Rouillé, 1559 [1550]), 415, 454-55.
- ¹⁰ Girolamo Cardano, *De rerum varietate libri XVII* (Basel: Henricus Petrus, 1557), 8-9, 18-19, 26, 285.
- ¹¹ Julius Caesar Scaliger, *Exotericae exercitationes ad Cardani libros XV de subtilitate* (Paris: Michel Vascosan, 1557), 547, 761-62, 788.
- ¹² Cardano, *De subtilitate*, 335.
- ¹³ Cardano, *De subtilitate*, 34; *De rerum varietate*, 9. See Aristotle, *Meteorology*, 351a19-25, 351b29-30, 352a14-16.
- ¹⁴ Nancy Siraisi, *The Clock and the Mirror: Girolamo Cardano and Renaissance Medicine* (Princeton: Princeton University Press, 1997), 131.
- ¹⁵ Ingegno, *Saggio sulla filosofia di Cardano*, 53-55.
- ¹⁶ A similar attempt was made a few years later by Jean Bodin, himself an avid reader of the Cardano-Scaliger controversy: see *Methodus ad facilem historiarum cognitionem* (Paris: Martin Le Jeune, 1566), 91-176.
- ¹⁷ Ornella Faracovi, "The Return to Ptolemy," in *A Companion to Astrology in the Renaissance*, ed. Brendan Dooley (Leiden-Boston: Brill, 2014), 87-98; David Cantor (ed.), *Reinventing Hippocrates* (Aldershot: Ashgate, 2001).
- ¹⁸ Baccio Baldini, *In librum Hyppocratis de aquis, aëre, et locis* (Florence: Bartolomeo Sermartelli, 1586), 245-48.
- ¹⁹ Silvia Rota Ghibaudi, *Ricerche su Ludovico Settala* (Florence: Sansoni, 1959).
- ²⁰ Alessandro Trajano Petronio, *De victu Romanorum et de sanitate tuenda libri quinque* (Rome: Stamperia del popolo romano, 1581), 6, 8-14, 167-71, 243-45.
- ²¹ Petronio, *De victu*, 168-179.
- ²² Marsilio Cagnati, *De Romani aëris salubritate* (Rome: Luigi Zanetti, 1599), 16-17.
- ²³ Cagnati, *De salubritate*, 37-40.
- ²⁴ Sara Miglietti, "Wholesome or Pestilential? Giovanni Battista Doni (1594-1647) and the Dispute on Roman Air," *NeMLA Italian Studies* 38 (2016): 203-220.
- ²⁵ Sandra Cavallo and Tessa Storey (eds), *Healthy Living in Late Renaissance Italy* (Oxford: Oxford University Press, 2003).
- ²⁶ Miglietti, "Wholesome or Pestilential".
- ²⁷ Charles Trinkaus, "The Problem of Free Will in the Renaissance and the Reformation," *Journal of the History of Ideas* 10 (1949): 51-62; Antonino Poppi, *L'etica del Rinascimento tra Platone ed Aristotele* (Naples: La Città del Sole, 1997), 89-142.
- ²⁸ Sara Miglietti, "The Censor as Reader: Censorial Responses to Bodin's *Methodus* in Counter-Reformation Italy (1587-1607)," *History of European Ideas* 45, no. 2 (2016): 707-721.
- ²⁹ Antonio Possevino, *Coltura degl'ingegni (Vicenza 1598)*, ed. Mariano Lauretti (Sala Bolognese: Arnaldo Forni, 1990), 23.
- ³⁰ Possevino, *Coltura degl'ingegni*, 15.
- ³¹ Possevino, *Coltura degl'ingegni*, 21.

³² John M. Headley, "Geography and Empire in the Late Renaissance: Botero's Assignment, Western Universalism, and the Civilizing Process", *Renaissance Quarterly* 53, no. 4 (2000): 1119-55; Romain Descendre, *L'État du monde. Giovanni Botero entre raison d'État et géopolitique* (Geneva: Droz, 2009).

³³ Adrien Paschoud, *Le Monde amérindien au miroir des Lettres édifiantes et curieuses* (Oxford: Voltaire Foundation – Oxford University Press, 2000); Neil Safier, *Measuring the New World: Enlightenment science and South America* (Chicago: University of Chicago Press, 2008).

