Editorial
Evolving Cosmographies

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Abstract
This editorial is intended to frame the special issue of the Journal of Early Modern Studies devoted to The Circulation of Cosmographical Knowledge in Early Modern Europe. Providing early modern definitions of cosmography and differentiating between cosmography and geography, it takes stock of the latest scholarly publications on the subject and sheds light on the various contributions in this issue. In the presentation of the various sections, it emphasizes fresh perspectives and methodologies likely to open up new interpretive paths in the field of cosmography.

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At the beginning of Act 3 of Marlowe’s Doctor Faustus, the Chorus tells the audience that the protagonist has gone to ‘prove cosmography’ (1999, l. 7): 1 in other words, he intends to check the accuracy of the maps that Mephistopheles has provided him with before flying to Rome on the back of a dragon. Given the context of the play, this mention of cosmography goes hand in hand with Faustus’ daring pursuit of knowledge – a total, global knowledge of the universe in a deeply changing world in which old systems of belief could not account for the new realities disclosed by astronomers and explorers. While Marlowe here points to the disillusionment awaiting all scholarly aspirations, he also highlights the need to delineate the shifting shape of the world in a period of political and moral uncertainty.

This special issue of the Journal of Early Modern Studies attends to matters such as these, which were unfolding at a time of great discoveries and religious dissentions, the era of Copernican theory and Galilean revolution. It seeks to explore the complexities of the concept of cosmography in the early modern period,

1 I am quoting from the 1604 text, but the reference to cosmography is also present in the 1616 text.
proposing to enlarge and clarify our understanding of this ambitious project (which comprised a variety of different disciplines) by tracing its European networks.

1. Defining Early Modern Cosmography

As an attempt to study the world in its entirety, Ptolemy’s *Cosmographia* (second century B.C.E.) is the only cartographical work to have survived from Antiquity, and it was a ground-breaking one until the seventeenth century at least. Lost for over a thousand years, it was rediscovered around 1300, when Byzantine scholars began introducing copies of its maps and writings into Italy. Translated from Greek into Latin by Jacopo Angeli in the early fifteenth century, it lost the concept of its original title in translation – as Janet Clare reminds us in her detailed Introduction – and it became widely known as Ptolemy’s *Geography*. The word ‘cosmography’ thus appeared quite late in the English language: it cropped up in the last decades of the fifteenth century to designate an emerging humanistic discipline which was conceived as a response to the discovery of the New World. While the limits of the *oikoumene* had long been regarded as fixed once and for all – a belief which had deterred many a voyage of exploration – the boundaries of the inhabited world were suddenly redefined: in other words, the previous tripartite division of the world (Europe, Asia, Africa) had to be radically altered with the discovery of the American landmass. Men of science variously tried to come to grips with this destabilizing process: along with cartography and chorography, cosmography, which incorporated cosmic and theological themes and which mixed facts and fiction, was one of them. Its rapid success undoubtedly owed much to the parallel development of the printing press, which helped spread knowledge of newly discovered geographical and celestial realities.

Now broken up into its component parts and no longer studied as a distinct genre or discipline, the learning of cosmography was strongly advocated by sixteenth- and seventeenth-century humanists and teachers across Europe. In Rabelais’ *Gargantua and Pantagruel*, Gargantua thus writes to his son that ‘books of *Cosmographie* will be very conducible, and help [him] much’ (1653, Book 2, Ch. 8, 56). According to the OED, cosmography can first and foremost be defined as ‘The science which describes and maps the general features of the universe (both the heavens and the earth), without encroaching on the special provinces of astronomy or geography’ (OED, 1) even though, as Dario Tessicini suggests, ‘at least up until 1600 different notions of cosmography coexisted, interacted and eventually collided’ (2011, 51, Abstract). By contrast, the term ‘geography’, which appeared around the same period, was much more specific since it primarily designated ‘A treatise on the physical features or characteristics of a region’ (OED 1), and thus concerned, more restrictively, the knowledge of terrestrial space. Early works on cosmography notably include Peter Apian’s *Cosmographicus liber* (1524), a book which expatiated on the division of the heavens into circles, explained how they mapped onto the earth, and provided a description of the earth (as well as of its inhabitants); it also contained a list of latitudes and longitudes of cities as well as various maps and diagrams. Implied in Apian’s text was the idea that, ‘as the boundaries of the known world expanded, so did the importance of knowing one’s own place in it’ (Gaida 2016, 280). Sebastian Münster’s richly illustrated *Cosmographia* of 1544 was printed in Basel, in the Swiss Confederation. For Münster, ‘the art of

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2 Manuel Chrysoloras, a Byzantine émigré, was the first to produce an incomplete translation of the text which he introduced in Italy in 1397. Leonardo Bruni, one of Chrysoloras’ students, followed his master but soon abandoned his translation, which was then completed by Jacopo Angeli da Scarperia in 1409-1410.

3 Ch. 8 is entitled ‘How Pantagruel being at Paris received letters from his father Gargantua, and the Copy of them’.
cosmography concerns itself not only with the countries, habitations and lives of the various people of the earth, but also with ... strange animals, trees ... the habits, customs, laws, and governments of men' (quoted in McLean 2007, 124). While the *Cosmographia* can be defined as an attempt to embrace all forms of knowledge, the details provided by the author become less and less exact as one travels further away from Münster's German homeland. As the descriptions focus on the faraway lands of Asia and Africa, they grow more fanciful and allow for monstrous races to appear. In the fifteen years after Münster's ambitious enterprise, William Cuningham popularized cosmography in England and, in the dedicatory epistle of his *Cosmographical Glasse*, he explains that he 'deuised this mirrour, or Cosmographical Glasse' for his readers to 'behold not one or two personages, but the heauens with her planets and starres, the Earthe with her beautifull Regions, and the Seas with her merueilous increse' (1559, n.p., ‘To the right honorable the Lorde Robert Duddeley’). One of Cuningham’s competitors was Thomas Blundeville who, in his *Exercises* of 1594, explained in turn that ‘Cosmography is the description of the whole world, that is to say, of heauen and earth, and all that is contained therein’ (134).4 The works by Cuningham and Blundeville, written in vernacular English, were the first on a subject which by and large ended with Peter Heylin’s *Cosmographie*, first published in 1652 and followed by later editions. Not only did English cosmographers influence the understanding of space in the early modern period but they also profoundly transformed the perception of the world – notably through a typically geo-humoral perspective which associated location with bodily humours, and which posited that human beings were shaped by the climate they lived in. In an age of exploration, they blended empirical knowledge, eye-witness accounts and fictional narratives in books not just aimed at the elite, but made accessible for merchants and navigators alike. Heylin’s *Cosmographie* in four books, which incorporated overtly political considerations, marked the heyday (and, as suggested above, the decline) of the genre in England, at a time when confessional struggles were crisscrossing the whole of Europe. Its dwindling success all over the continent at the dawn of the eighteenth century coincided with the early stages of modern cartography and geography and with a gradual divorce between theological concepts and scientific ideas.

2. The State of the Art

A juxtaposition of science and ideology, of competing models and conflicting information drawn from more or less reliable sources, cosmography was an all-encompassing discipline inevitably subject to change and correction. Yet, it was endowed with genuinely transformative functions. As such, it testified to important advances in the knowledge of the world, mainly outside the universities (which often held to old world visions), transmitted through texts popular at the time but often neglected today. As early as 1951, Louise Diehl Patterson emphasized the influence of books such as Robert Recorde’s *Castle of Knowledge* (1556), a work in which the author, at a comparatively early date, paid attention to Copernicus’ heliocentrism and deemed that this ‘new hypothesis was worthy of respectful attention’, even though he did not completely endorse it (1951, 218). In the wake of material studies, critics working in the late twentieth and the twenty-first century have more generally focused on cosmographical instruments designed during the early modern period: Adam Mosley, for instance, has examined the sundial in connection with the then current mathematical practices attached to cosmography (2019).

4 By contrast, geography, the author explains, ‘is a knowledge teaching to describe the whole earth, and all the places contained therein, whereby viuiersall Maps and Cardes of the earth and sea are made’ (Blundeville 1594, 134).
However, while a respectable number of essays have brought cosmographic case studies to the fore, comparatively few books have studied in detail the impact of cosmography – perhaps because the discipline disappeared with the advent of the Enlightenment. Geography has been largely preferred to its more global and ambitious counterpart, generating excellent studies. Lesley B. Cormack’s *Charting an Empire. Geography at the English Universities 1580-1620* (1997), for example, sheds fresh light on the way geography and imperialism reinforced each another at a time when controlling and exploiting the world were thought of as a means of empowerment and, moreover, as perfectly legitimate actions taken by a superior English people. Such observations are shared and analysed further by Surekha Davies who, in *Renaissance Ethnography and the Invention of the Human: New Worlds, Maps and Monsters* (2016), demonstrates how, alongside a variety of illustrated sources, maps visually synthesized a form of ‘ethnographic knowledge’ that justified the enslavement of indigenous peoples.

Yet, cosmography was also part of this questionable enterprise. Far from simply aiming at facilitating sea travel, it also intersected with culture and religion, and in many cases its use revealed the imperial politics of powerful kingdoms. Among the few books devoted to cosmography itself, Maria M. Portuondo’s *Secret Science: Spanish Cosmography and the New World* (2009) demonstrates this point. While she examines the contours and identity of the discipline of cosmography, she also reveals the strategic and monetary value of cosmographic knowledge, that, in the 1550s, reoriented its use. Overall, Portuondo contends that the discovery of the New World led to the emergence of a kind of *humanismo científico* (scientific humanism) which brought the humanities into contact with new, practice-oriented approaches, and that New World discoveries prompted the cosmographers of the period to expand their discipline and draw new intellectual boundaries. In so doing, she follows in the footsteps of Frank Lestringant, a pioneer in the field. In his highly influential *Mapping the Renaissance World: The Geographical Imagination in the Age of Discovery*, Lestringant had cogently argued that cosmography amounted to the pursuit of an ‘eternal and ubiquitist knowledge’ (1994, 130) of the earth, before delineating the decline of cosmography and the emergence of new disciplines or practices that challenged and discredited the former’s synthetic purpose.

In the mid-sixteenth century, the study of cosmography was indeed in a state of upheaval in Western Europe. The European voyages of exploration had disrupted the old ideas of the nature and structure of the world. Cosmography thus found itself caught in the midst of clashing epistemologies: established authority vs. eye-witness experience; humanism vs. the new science; medieval heritage vs. early modern knowledge. In *Cosmographical Novelties in French Renaissance Prose (1550-1630). Dialectic and Discovery* (2016), Raphaële Garrod focuses on book learning and argues that dialectic – the art of argumentation and reasoning – played a crucial role in articulating and popularizing new learning about the cosmos. Indeed, cosmographical knowledge was constructed in part through theoretical ideas about the shape and structure of the world, and in part by empirical knowledge gained through travellers’ reports.

Taking stock of this existing research on cosmography, *The Circulation of Cosmographical Knowledge in Early Modern Europe* aims to offer a nuanced and global approach to a multifaceted discipline which proved crucial to the understanding of the world and of man’s place in it and, also, to explore how early modern cosmographical knowledge was disseminated at the time. More generally, as the centre of the universe shifted and in the light of new astronomical speculations, we ask how learning, thinking and conceptualizing the notion of *terra incognita* remained rooted in belief or subject to revision. Further, the present issue of the *Journal of Early Modern Studies* investigates how, when and in what forms cosmographical knowledge circulated.
3. A Survey of this Special Issue

For the sake of clarity, we have divided this special issue into five different sections which all include cosmographical theories and practices from various parts of Europe. Presenting the structuring issues at stake, the opening section, which consists of Janet Clare’s Introduction, dwells on the various facets of cosmography and discloses the diversity of materials (including maps and images) used by early modern cosmographers while emphasizing a major feature accounting for the success of this comprehensive and cross-disciplinary science, namely the ‘circulation’ of cosmographical texts, in connection with European presses and universities. Some of these texts, Clare reminds us, encountered ‘incredulity, censure and censorship’. Clare concludes her article with a discussion of the reception of Copernican theory, opening up questions about the inhibitions placed on knowledge circulation.

In the second section, devoted to cosmography and geography and to the differences and possible congruences between these two disciplines, Margaret Small examines Giovanni Battista Ramusio’s influence on Western European geography. In the 1550s, this Venetian writer compiled the Navigazioni e viaggi, a group of narratives in vernacular Italian initiating a new form of geography which endeavoured to present a cosmography of the entire world as seen through the eyes of the traveller. Small examines how the Navigazioni e viaggi became a bedrock of European geographical knowledge, examining its use by the English astrologer and geographer John Dee and the French royal cosmographer, André Thevet. Although no one else fully adopted Ramusio’s form of cosmography through travelogue, Small argues that the travellers’ tales, mediated through the compilation of a sedentary Venetian, crisscrossed Europe and became fundamental in creating a new geographical understanding dependent on the words of eye-witnesses. Next, Isabelle Fernandes places The Cosmographical Glasse (1559), William Cuningham’s magnum opus, in its English and, more broadly, European context. Influenced by Ptolemy, Strabo and Aristotle, among others, The Cosmographical Glasse appeared during the early modern revolution in mathematics that turned this liberal art to practical use by applying it to geography for a better conceptualization of the globe. Fernandes explores how this first English book dealing with navigation and oceanic discoveries in relation to astronomy and cosmography stood at the crossroads between the old and new epistemologies. Anthony Payne’s article, which concludes this section, examines in detail the sources from which Richard Hakluyt assembled his Divers Voyages (1582), later reprinted in The Principal Navigations, a far more extensive collection of voyages. In an incremental approach to the process of Hakluyt’s collaborative compiling of the texts, Payne shows how in Divers Voyages Hakluyt assembled geographical and other useful background information (from English, Italian, French and other sources) for potential venturers. He argues that this complicated text was compiled with the intention of promoting English expeditions to the New World. Hakluyt highlighted both the productive potential of such voyages (including commodities, in particular) and the opportunity of identifying a Northwest Passage. Further, Payne’s article places Hakluyt’s work in the context of his religious cosmography and of his belief (shared by Ramusio) that histories of the discovery of the world should be those of eyewitnesses, contrary to the usual practice of mediating accounts drawn from the work of other cosmographers.

The third section compares and contrasts the theoretical and practical aspects of cosmography as co-existent trends at the time. Indeed, while theoretical cosmography was housed in the universities and was dependent on the book trade, practical cosmography depended upon the first-hand experience of mariners who, with pragmatic aims in mind, were willing to share their experience – albeit in limited ways. Antonio Sánchez Martínez explores practical or artisinal cosmography in the Iberian world from the first decades of the sixteenth century onwards.
To illustrate this ‘new’ cosmography, he examines the lesser-known figure of Alonso de Chaves, who, in 1557, was appointed Pilot Major, the most prestigious scientific position in the Sevillian institution. This cosmographer wrote a nautical encyclopaedia, *Quatri Partitu in cosmographia practica* (c. 1530), largely ignored by critics until the end of the nineteenth century. Yet Richard Hakluyt acknowledged his debt to Chaves, whose compendium was probably the most complete nautical encyclopaedia of his time. The subject, structuring, style and language of Chaves’ treatise, as well as its targeted audience, all indicate that there were substantial differences between the cosmography practised in Seville and that of Central European countries. Next, Tom Conley brings out tensions between cosmography and topography in maps and writings of the French mathematician and cartographer Oronce Fine. Fine was the editor and illustrator of two editions of Johannes Sacrobosco’s *De Sphaera* (1517 and 1527), and he later published a vernacular edition titled *L’Espèhre du monde*. Headed by a poem celebrating the virtue of mathematics, the work is a point of reference in both the history of treatises on cosmography and the history of the illustrated book. Conley’s article reveals a link between the manuscript culture of cosmography and the printed book: the printed version of *L’Espèhre du monde* (1551) transcribes an ornate manuscript of the same title that Fine had presented to Henri II in 1549. Close reading of the two documents reveals that, in their progression, they tilt away from cosmography to geography, and that the French nation and its provinces become increasingly manifest. More generally, Conley takes stock of the status of cosmography in French circles in the middle of the sixteenth century, the moment that Münster’s *Cosmographia* became a major and longstanding project across Europe. Concluding section 3, Edgar Omar Rodríguez Camarena’s article takes us beyond Europe as cosmographical knowledge was transmitted to the ‘new’ world. It examines the ideas of Alonso de la Vera Cruz, an Augustinian friar who sailed to the New World in 1536 and who, seventeen years later, became professor of sacred scripture at the new University of Mexico. In this position he devoted much of his time to cosmography, including both celestial and geographical conceptions, illustrating his approach to the discipline in ‘De coelo’ (On the heavens), excerpted from his *Physica speculatio* (1557). Here, Alonso de la Vera Cruz, remarkably for his time, defends American nature. As he draws on his own experience when discussing the qualities of the Americas, he is clearly sympathetic to the native people of Mexico. As a result, he does not hesitate to challenge the traditional Eurocentric concept of the New World as peripheral and of its inhabitants as inferior beings. More generally, Rodríguez Camarena explains how, in exalting the virtues of the American climate, inhabitants and resources, de la Vera Cruz developed a local perspective that transferred the idea of centrality from Europe to the New World.

The fourth section is devoted to what could be called ‘theological cosmography’. The articles in this section stress the biblical and Christian context and frames of sixteenth- and seventeenth-century works of cosmography and cartography. In a synthetic article, Étienne Bourdon reminds us that sociologists, philosophers and historians have identified a so-called ‘disenchantment of the world’ which began to be perceptible during the Renaissance. Bourdon draws a useful distinction between geography and cosmography in arguing that the process of ‘disenchantment’ was an uneven and complex one. On the one hand, cartography and geography moved away from biblical and Christian readings of the world. On the other, cosmography was seen as enabling a form of knowledge of the Divine describing the entire Creation. Following Bourdon’s article, Stephanie Inverso sheds fresh light on Abraham Ortelius’ cartographic work. In 1564, the celebrated Flemish cartographer published a world map in the shape of a heart. This map, Inverso argues, manifests a spiritual call towards world unity influenced by the heterodox sect known as the Family of Love. Six years later, Ortelius published the first edition of his ground-breaking atlas entitled *Theatrum Orbis Terrarum*. With this later work, the unorthodox message of his cordiform map
was not erased but transmitted into his widely circulating atlas. Through this case study, Inverso demonstrates how cosmographical knowledge circulating within humanist networks retained spiritual concerns which continued to influence European cartography.

The final section, which relates to the politics of cosmography, addresses a number of methodological issues in the handling of primary sources. Looking at less celebrated sources of cosmographical knowledge, the articles in this section reveal cosmography’s generic hybridity. Jane Grogan examines the circulation of cosmographical knowledge through the activities of the less prominent, lower-class trading company travellers, often through romance or romance tropes. She attends therefore to the neglected group of those who travelled as mariners on the ships of the joint-stock trading companies, and whose contribution to English cosmographical as well as literary culture has not yet been fully accounted for. In her article, she focuses on two representative examples: the cosmographical quasi-romance writings of William Warner (especially of the 1596 edition of *Albion’s England*), whose father was one of the sailors on the first English ships sent to investigate a north-east passage, and the travel writings of John Cartwright (*The Preacher’s Travels*, 1611), sometime chaplain on East India Company voyages. Grogan concludes that scholars must search more carefully for lower-class voices not only in the archives but also amongst the records of more popular or less elite groups. Next, in her examination of a map created by Baptista Boazio and entitled ‘The Famouse Weste Indian Voyage’ (a visual account of the voyage undertaken by Francis Drake in 1585 and endorsed by Elizabeth I to make a case for English primacy in the Americas), Sandra Young calls our attention to the fact that the maps tasked with charting English discoveries on the high seas in the latter half of the sixteenth century generally constitute an ambivalent archive. These maps participated in the imaginative work of conceptualizing the world as a singular whole held within a unified cosmos. Yet, at the same time, they were distinctly partisan, helping to advance English adventurism and to construct an elevated vantage point where the would-be English colonialist might imagine traversing oceans to subdue far-flung lands and their peoples. By rereading Boazio’s beautiful hand-painted map, Young’s article reflects on the interpretative tool kit that might be helpful in laying bare the racial violence that infused the early period of English expansionism. Finally, Willy Maley focuses on two Dutch doctors, the Boate [de Boot] brothers, Arnold (1606-1653) and Gerard (1604-1650), who were both medical graduates of Leiden University. They moved together to London in 1630 to work as practicing physicians, and they subsequently and separately emigrated to Dublin in the 1630s and 1640s, where they each landed, years apart at a time of transformation. Each brother contributed in key ways to the philosophical, religious and scientific debates of the time through connections with diverse learned communities. Maley demonstrates that, in their fusion of cosmography, philosophy, natural philosophy, agriculture and biography, the Boate brothers offer new ways of thinking about the lattice work of synergies that hummed and sparked throughout the seventeenth century. In particular, Gerard’s ground-breaking book, *Irelands Naturall History* (1652), published posthumously, shaped the interest of many an intellectual in Ireland and proved to be a milestone in economic geography.

The volume’s Afterword, by François Laroque, puts all these articles into perspective and provides a useful literary counterpoint to the historical issues tackled by the various contributors. Indeed, Laroque pays special attention to cosmographical representations and to the fruitful relationships between texts and images, map-making, and map imagining. The very fact that the playhouse of Shakespeare’s company was called the Globe corroborates the impact of cosmographical material upon early modern stages and pages. Examining cosmography from a Shakespearean perspective, Laroque shows that this discipline also fashioned the early modern imagination, allowing writers to develop their own poetic visions of an ever-shifting universe.
In conclusion, in this special issue we hope to show that the earlier cosmographical representations constructed by Shakespeare’s European contemporaries were at least as fertile as the late seventeenth-century astronomical imagination that seems to have fascinated so many historians and literary scholars.\textsuperscript{5} The following articles testify to an enlarged (albeit biased) and complex understanding of a rapidly shifting world – an understanding blending facts and fiction and, for that very reason, still too frequently dismissed or oversimplified in our apprehension of the early modern era.

This volume is dedicated to the memory of Margaret Small, 1975-2023.

\textit{Works Cited}


\textsuperscript{5} See, for instance, Cetera-Włodarczyk, Hope and Włodarczyk 2021.