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978-1-107-03667-3 - Renaissance Ethnography and the Invention of the Human: New Worlds,
Maps and Monsters

Surekha Davies

Excerpt

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Introduction

Renaissance maps and the concept of the human

For the late medieval friar and chronicler Paolino Veneto, without a world map (*map[p]a mundi*), ‘it is not just difficult but impossible to make [oneself] an image of, or even for the mind to grasp, what is said of the children and grandchildren of Noah and of the Four Kingdoms and other nations and regions, in both divine and human writings’. In Paolino’s view, a history of the world needed a map composed of text and image: ‘Nor will you deem one sufficient without the other, because painting without writing does not indicate regions or nations clearly, [and] writing without the support of painting truly does not mark the boundaries of the provinces of a region sufficiently clearly for them to be seen almost at a glance’.¹ For Paolino, illustrated maps were far from being mere decoration; instead, they were vital tools for understanding the relationship between geography and Biblical history. The arrangement of words and pictures in a geographical setting gave illustrated maps a particular explanatory power.

This book demonstrates how maps illustrated human variation across the globe in new ways in the sixteenth and early seventeenth centuries, in the mid- to late Renaissance.² In this period, scholars, geographers and mapmakers investigated the relationship between information garnered from westward voyages and ideas about the distant east and south that had long circulated in classical, Biblical and medieval sources. By analyzing images and descriptions of peoples on maps alongside contemporary

¹ Paolino Veneto, Vat. Lat. 1960, f.13 (Biblioteca Apostolica Vaticana): ‘que dicuntur de filiis ac filiis filiorum Noe et que IIIIor monarchis ceterisque regnis atque provincias tam in divinis quam in humanis scripturis, non tam difficile quam impossibile . . . ymaginari aut mente posse concipere. . . Nec unum sin altero putes sufficere, quia pictura sine scriptura provincias seu regna confuse demonstrat, scriptura vero non tamen sufficienter sine adminiculo picture provinciarum confinia per varias partes celi sic determinat, ut quasi ad oculum conspici valeant’, transcribed and translated in Juergen Schulz, ‘Jacopo de’ Barbari’s View of Venice: Map Making, City Views, and Moralized Geography before the Year 1500’, *The Art Bulletin*, 60 (1978), 425–74, at 452. I have made minor amendments to the translation.

² I use the term ‘Renaissance’ in its broadest sense to refer to a period rather than to the philological rediscovery of classical antiquity. Nevertheless, many cartographers and geographers who devised illustrated maps, and the scholars and literate audiences who consulted their work, did so in dialogue with the writings of classical antiquity.

prints, costume books, natural histories, encyclopedias and travel literature I show how maps made arguments about the relationship of human societies, bodies and cultures to their environments. Mapmakers used particular rhetorical devices and formal layouts to encourage their audiences to consider their works as containing reliable knowledge. Seemingly fantastic images of, for example, Brazilian cannibals or Patagonian giants were carefully devised syntheses that helped mapmakers to market these works as uniquely suited for comparing environmental influences on bodies and temperaments.

Many Renaissance readers were fascinated by the customs and manners of distant peoples. The traveller Pieter de Marees, in his foreword to the first Dutch illustrated account of Africa which was printed by the prolific travel and map printer Cornelis Claesz, noted that he decided to ‘adorn [his account] with some handsome plates, so that one might see of what shape or character the men and women are there in Guinea; and also what clothes and ornaments they use there, [and] what religious ideas and feelings they have’.³ Readers consulted maps and atlases alongside travel editions in order to locate and contextualize such texts. In what distinctive ways, then, did maps constitute ethnographic knowledge and thereby inflect the ways in which readers understood human variety? This book explores the emergence of iconic representations on maps with this question in mind. My argument is that maps were key artefacts in the fluctuating shape of the human in the European imaginary in an era of transformative, often catastrophic, cultural contacts.

Mapping human variety

The Renaissance world map placed information about the world’s peoples within a two-dimensional grid in which the location of cultures was fundamental to understanding human variety. As mapmakers increasingly used the latitudinal and longitudinal coordinate system of the second-century CE Greco-Egyptian geographer Ptolemy’s *Geographia* for their

³ Pieter de Marees, *Beschryvinghe ende historische verhael van het Gout Koninckrijk van Guinea* (Amsterdam, 1602), dedicatory epistle to Ian Sandra: ‘met sommighe fraeye Fygueren te vercierien, daermen in sien moeghte van wat ghestaltenisse ofte gedaente dat de Mans ende Vrouw personen aldaer in Guiana zijn, ende ooc wat cleedinghe ende ciraet dat sy daer ghebruycken, ende wat opinien ende gevoelen dat sy in haer ghelooft hebben’; Pieter de Marees, *Description and Historical Account of the Gold Kingdom of Guinea (1602)*, trans. and ed. Albert van Dantzig and Adam Jones (Oxford: Oxford University Press, 1987), 1.

world maps and atlases, the relationship between geography, climate and humans became more precisely intertwined. Since geography was thought to influence human customs, temperaments and physiques, placing ethnographic images within a gridded spatial system was tantamount to providing viewers with a shortcut for extrapolating the civility of a people.⁴

New mapping techniques and oceanic expansion prompted scholars and artisans to rethink the boundaries of the human. Readers versed in classical humoral theory expected extreme environments to cause the degeneration of humans into peoples who were physically or behaviourally monstrous.⁵ In works of natural history, ancient authors such as Pliny the Elder had argued that regions to the far south and east of the Greek world had such hostile climates that they engendered monstrous peoples.

Iconic map illustrations and captions delineating peoples of the world effectively made epistemological claims about the proper way to make ethnographic knowledge, and ontological ones about the concept of the human and the boundaries between humans and monstrous peoples. The maps' illustrations emblemized what a region's people had in common and what made them distinguishable from those of other regions. Mapmakers across regional cartographic traditions – from Amsterdam to Seville – shared certain visual codes, as we shall see. By selecting and devising images, mapmakers did not merely reflect the ethnographic and natural historical contents of their sources, but also constituted it in new ways. Mapmakers' map inscriptions, atlas prefaces and other writings illuminate how readers were expected to decode the imagery, thus establishing an interpretative collaboration between mapmaker, illustrator, commentator and viewer.⁶

⁴ For a similar point, see Jacqueline Duvernay-Bolens, *Les Géants patagons: voyage aux origines de l'homme* (Paris: Éditions Michalon, 1995), 39. For Ptolemy in the Renaissance, see Patrick Gautier Dalché, 'The Reception of Ptolemy's *Geography* (End of the Fourteenth to Beginning of the Sixteenth Century)', *HC3*, I, 285–364.

⁵ For colonial contexts, see Jorge Cañizares-Esguerra, 'New World, New Stars: Patriotic Astrology and the Invention of Indian and Creole Bodies in Colonial Spanish America, 1600–1650', *American Historical Review*, 104:1 (1999), 33–68; Joyce Chaplin, 'Natural Philosophy and an Early Racial Idiom in North America: Comparing English and Indian Bodies', *William and Mary Quarterly*, Third Series, 54 (1997), 229–52; Karen Ordahl Kupperman, 'Fear of Hot Climates in the Anglo-American Colonial Experience', *William and Mary Quarterly*, 3rd ser., 41 (1984), 215–40.

⁶ I have adopted the phrase 'interpretative collaboration' from Arnold Hunt, *The Art of Hearing: English Preachers and their Audiences* (Cambridge: Cambridge University Press, 2010), 292. For the ways in which the interplay of illustrations and captions shaped reading practices and served mnemonic functions, see Christian Jacob, *The Sovereign Map: Theoretical Approaches in Cartography throughout History*, trans. Tom Conley, ed. Edward H. Dahl (Chicago, IL: University of Chicago Press, 2006), 167–72.

Collectively, these mapmakers created imagined communities. Benedict Anderson defined the nation as ‘an imagined political community – and imagined as both inherently limited and sovereign’, quoting the philosopher and social anthropologist Ernest Gellner: ‘Nationalism is not the awakening of nations to self-consciousness: it invents nations where they do not exist.’⁷ We can also talk about communities made in the imaginations of others, invented as inherently distinctive ethnic groups and located in particular geographical spaces. Renaissance maps were central to how Europeans fashioned this type of imagined community.

Maps illustrated with distant peoples were, in effect, both ‘contact zones’ between cultures and ‘representational machines’ in the sense that they were analytical tools with which Europeans made sense of human diversity.⁸ They reveal a key part of the history of Renaissance ethnography, by which I mean descriptions of distant peoples in words or images.⁹ In comparison, geographical compendia, although rich in textual information about peoples, were largely unillustrated. Costume books offered few depictions of Amerindians, did not begin to appear until the 1560s, and do not survive in the same numbers as maps. Illustrations within travel editions were far more dependent on specific narratives. In travel writing, descriptions of the peoples are scattered across the narratives. Illustrated maps, by contrast, were a genre in which information about a range of peoples was synthesized in one place, offering a unique medium that invited the comparative contemplation of human civilizations.

European maps depicting Amerindian peoples allow us to trace responses to human diversity across regions with varying relationships to the New World in the long sixteenth century: the Spanish and Portuguese empires; the French proto-empire; the Low Countries; and the German lands of the financial backers of many Iberian voyages of exploration. During the period

⁷ Benedict Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (London: Verso, 1991), 6; Ernest Gellner, *Thought and Change* (London: Weidenfeld and Nicolson, 1964), 168.

⁸ For contact zones, see Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London: Routledge, 1992 [2008 printing]), 7; for representational machinery, see Stephen Greenblatt, *Marvelous Possessions: The Wonder of the New World* (Oxford: Clarendon Press, 1991), 4.

⁹ Here I expand upon James Clifford and George E. Marcus’s classic formulation of ethnography as writing about fieldwork that also lends itself to disciplines beyond anthropology (*Writing Culture: The Poetics and Politics of Ethnography* (Berkeley and Los Angeles, CA: University of California Press, 1986)). I define ethnography more broadly, as is generally the case with scholars of Renaissance encounters, to include all manner of descriptive writing and of the making of images and artefacts intended to represent peoples.

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covered by this book, roughly 1492–1650, the production of maps depicting and describing distant peoples reached its widest extent, flourishing in centres across Iberia, France, the German lands, the Low Countries and eventually England. This was also an era in which numerous travel accounts of European explorers became available via print to a broader reading public. Mapmakers in Europe drew on travel and geographical writing in order to incorporate new regions into their maps, atlases and geographies.

To explore the questions that drive this book I have drawn on new directions in the history of science, art history, literary studies and the history of cartography. The book is in essence a cultural history underpinned by methods from *l'histoire des mentalités* or historical anthropology articulated in the now classic works of Peter Burke, Natalie Zemon Davis, Robert Darnton and Carlo Ginzburg, among others. It is informed by the anthropological and psychological tradition for the interdisciplinary study of artefacts and culture elaborated by medieval and Renaissance scholars such as Michael Baxandall. I have also drawn on the writings of ethnohistorians, most notably the work of Neil L. Whitehead, who have pioneered ways of recovering indigenous agency, events on the ground and historical realities in the structures and motifs of European colonial texts. Historical anthropologists – those historians whose work is informed by sociology and anthropology – have demonstrated that details that are seemingly irrelevant to modern eyes cannot be assumed to be so, and how the very incomprehensibility of such details gestures towards a route to new historical insights. The strangeness of Renaissance maps to our eyes is one such signal.¹⁰

Geography, environment and the colonial project

In the history of the development of analytical languages for understanding other peoples, the issue of geography was paramount.¹¹ For European

¹⁰ See, e.g., Robert Darnton, *The Great Cat Massacre and Other Episodes in French Cultural History* (New York, NY: Basic Books, 1984); Carlo Ginzburg, *The Cheese and the Worms: The Cosmos of a Sixteenth-Century Miller* (Baltimore, MD and London: Johns Hopkins University Press, 1980); Natalie Zemon Davis, *The Gift in Sixteenth-Century France* (Oxford: Oxford University Press, 2000); Michael Baxandall, *The Limewood Sculptors of Renaissance Germany* (New Haven, CT and London: Yale University Press, 1980); *The Discoverie of the Large, Rich, and Bewtiful Empyre of Guiana by Sir Walter Raleigh*, transcribed, annotated and introduced by Neil L. Whitehead (Norman, OK: University of Oklahoma Press, 1997).

¹¹ For the development of an analytical discourse on human variety between the late Middle Ages and the Renaissance, see especially Joan-Pau Rubiés, *Travel and Ethnology in the Renaissance: South India through European Eyes 1250–1625* (Cambridge: Cambridge University Press, 2000).

readers in the sixteenth and early seventeenth centuries, human variety was a function of place, a tenet that took on a visually persuasive form on illustrated maps. Interpretative cruxes that emerged – the fact that Amerindians at the same latitude as Ethiopians were not black, for instance – raised questions about whether social customs could affect mental capacities, and, by implication, the likely impact of American climates on European settlers.

Geographical discourses about the nature of the peoples of the Americas informed scholarly and juridical reflections on how the New World should be administered.¹² In order to better understand the colonial enterprises of the early decades of European oceanic expansion, we need to pay attention to changes to the intellectual foundations of colonialism and expansion across multiple European states in response to colonial experiences. This book contributes to scholarship on the nexus of climate, geography and colonialism by showing how geographical thinking underpinned by maps shaped ideas about indigenous bodies and temperaments. These issues were of paramount importance for safeguarding the continuing health and civility of European colonists and their descendants.¹³ Multiple epistemologies of ethnology and geography – crucially shaped by maps – fed wide-ranging debates about the justifications for conquest, colonial policies and the methods of proselytizing to different peoples.

A central topic of this book is the impact of maps on viewers' perceptions of human diversity. I argue that maps contained visual codes that made claims about the civility/barbarism of the communities they mapped, claims that had implications for subsequent cultural encounters and, to an extent, for colonial administration. Imperial officials, particularly those based in European metropolises rather than in the field, were dependent on the information in circulation. Renaissance scholars like the former Jesuit Giovanni Botero argued that multiple approaches were needed to

¹² See, e.g., Nancy E. van Deusen, *Global Indios: The Indigenous Struggle for Justice in Sixteenth-Century Spain* (Durham, NC and London: Duke University Press, 2015); Sabine MacCormack, *On the Wings of Time: Rome, The Incas, Spain, and Peru* (Princeton, NJ: Princeton University Press, 2007); Anthony Pagden, *The Fall of Natural Man: The American Indian and the Origins of Comparative Ethnology*, reprinted with corrections and additions (Cambridge: Cambridge University Press, 1986); Anthony Pagden, *European Encounters with the New World: From Renaissance to Romanticism* (New Haven, CT and London: Yale University Press, 1993).

¹³ Rebecca Earle, *The Body of the Conquistador: Food, Race and the Colonial Experience in Spanish America, 1492–1700* (Cambridge: Cambridge University Press, 2012); Mark Harrison, *Medicine in an Age of Commerce and Empire: Britain and its Tropical Colonies, 1660–1830* (New York, NY: Oxford University Press, 2010).

Christianize heathen peoples with different levels of civility.¹⁴ A glance at a seventeenth-century Dutch map speckled with peoples of contrasting attributes would also suggest that successful evangelization and colonization required a plurality of approaches. Maps offered statesmen and scholars what one might anachronistically call a panoptic view on the world.

As Joyce E. Chaplin has reminded us, human history was unproblematically part of natural history until the nineteenth century.¹⁵ Classical and medieval texts such as the fifth-century BCE Hippocratic work *Airs, Waters and Places* had fostered a tradition of conceiving differences in human cultures as the product of place. The thirteenth-century *De natura loci* (*On the Nature of Places*) by Albertus Magnus connected place explicitly with political theory. The southernness of the bulk of the early, documented and widely published voyages had great significance since late medieval scholarly traditions argued that hot climates produced inhabitants of more feeble mental capacities than temperate ones; this theory implicitly justified the enslavement and dominion of such peoples. The Renaissance re-invention of the ‘torrid zone’, as Nicolás Wey Gómez has argued, had a crucial impact on the shaping of early modern colonialism c.1450–1750.¹⁶ The present book shows how ideas about monstrous peoples in southern latitudes were elaborated on maps and taken up by their readers.

Also important for the concept of the human was the eastward destination of those expeditions to the Americas by virtue of the circumnavigatory potential of a round earth. The Magellan-Elcano expedition’s circling of the world in the 1520s marked for the first time the sewing together of two vectors of travels east and west of Europe.¹⁷ The circumnavigation also marked an ontological seam between two discourses from classical antiquity for understanding human cultural and physical variation: the

¹⁴ Giovanni Botero, *Relationi universali* . . . (Brescia, 1599). The New World section contains a chapter entitled ‘Concerning the diversity of barbarous peoples, and of the manner of preaching the Gospel’ (‘Della varietà de’ barbari, e del modo di predicar l’Euangelio’) in *Parte Quarta*, lib. III, 60–9.

¹⁵ Joyce E. Chaplin, ‘Ogres and Omnivores: Early American Historians and Climate History’, *William and Mary Quarterly*, 72:1 (2015), 25–32.

¹⁶ Nicolás Wey Gómez, *The Tropics of Empire: Why Columbus Sailed South to the Indies* (Cambridge, MA and London: MIT Press, 2008), xiii.

¹⁷ By contrast, the corresponding northerly vector to the Far East – the fabled Northwest Passage – was not traversed until the eighteenth century, and the South Pole resisted human attempts to peer around it well beyond the era in which it marked a meaningful juncture in conceptions of human variety.

discourse of monstrous peoples, who fell beyond the purview of regular humanity and civility; and the discourse of contingent human variance in temperament, appearance and capacities in relation to local climatic conditions.¹⁸

Too much to know

One challenge of making knowledge about the New World was the multi-fariousness of its witnesses. Travellers of varying reliability had each seen only a small part of the story. Problems of credibility were also acute for the editors, printers, cosmographers and mapmakers who repackaged travel information in new formats. These cultural arbiters deployed distinctive rhetorical strategies to imbue their works with authority.¹⁹ Renaissance mapmakers sought to convince their readers of their powers of analysis and synthesis in order to garner authority for maps of regions that they had not seen for themselves. Many maps articulate this rhetorically with titles along the lines of ‘the most accurate map made from the newest, best information’, which claim that their makers had evaluated and synthesized information from many eyewitnesses. In an era in which there was ‘too much to know’, there was also a de-centring of eyewitnesses by mapmakers who, at the same time, sought to bask in their glow.²⁰

With the advent of the moveable type printing press and the availability of paper manufactured within Europe, an ever-increasing number of books began to pour off the presses in editions of hundreds or thousands of copies, at a price that brought individual copies within the reach of a much wider range of people.²¹ This led to an avalanche of potential reading matter. Perhaps nowhere was the consequent information overload and

¹⁸ For monstrous peoples, see especially John Block Friedman, *The Monstrous Races in Medieval Art and Thought*, 2nd ed. (Syracuse, NY: Syracuse University Press, 2000). For classical theories of climate and human difference, see Clarence J. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century* (Berkeley and Los Angeles, CA: University of California Press, 1967).

¹⁹ For the notion of cultural arbiters, see Christine R. Johnson, ‘Buying Stories: Ancient Tales, Renaissance Travelers, and the Market for the Marvelous’, *Journal of Early Modern History*, 11 (2007), 405–46.

²⁰ For the expansion of knowledge-making genres in the early modern period, see Ann M. Blair, *Too Much to Know: Managing Scholarly Information Before the Modern Age* (New Haven, CT and London: Yale University Press, 2010).

²¹ For two influential and contrasting views of the impact of printing, see Elizabeth L. Eisenstein, *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early-Modern Europe* (Cambridge: Cambridge University Press, 1979); Adrian Johns, *The*

fracturing of knowledge categories more disruptive than in the arena of geography.²² As the seventeenth-century English geographer Peter Heylyn put it in an aside about the invention of the printing-press, ‘this most excellent invention hath been much abused, and prostituted to the lust of every foolish and idle paper-blurrer: the treasury of learning being never so full, and yet never more empty; over-charged so with the froth and scumme of foolish and unnecessary discourses’. What was more, Heylyn continued, the Dutch were the worst offenders since they would print their works not only in Dutch but also in Latin, and ‘send them twice a year to the publick marts, though neither worth the reader’s eye, nor the printer’s hand’.²³

Renaissance and early modern readers attempted to keep up with the increasing pace of book publishing by collecting and organizing salient excerpts. The era saw the emergence of ‘a new attitude toward note-taking’; printed compendia of excerpts were the earliest reference books.²⁴ The early modern atlas, the world map and the map of a continent also served to manage the barrage of new geographical information. Such works, intended for consultation in libraries, studies, parlours and state rooms alongside other works, were reference genres for those seeking to understand distant peoples comparatively. Renaissance mapmakers promoted their works as a way of garnering a wider perspective without the dangers of travelling. The geographer Georg Braun described it thus in the 1581 preface to the *Civitates orbis terrarum*: ‘Can one . . . imagine anything more pleasant than to be in one’s own home, a place far from all danger, to see, thanks to these books, the entire shape of the world . . . embellished by

Nature of the Book: Print and Knowledge in the Making (Chicago, IL: University of Chicago Press, 1998).

²² Anthony Grafton et al., *New Worlds, Ancient Texts: The Power of Tradition and the Shock of Discovery* (Cambridge, MA and London, 1992); Wolfgang Haase and Meyer Reinhold, eds., *The Classical Tradition and the Americas* (Berlin: Walter de Gruyter, 1994). This movement began with the southward voyages around the west African coast in the fifteenth century; see, e.g., Andrew Gow, ‘Fra Mauro’s World View: Authority and Empirical Evidence on a Venetian Mappamundi’, in *The Hereford World Map: Medieval World Maps and their Context*, ed. P.D.A. Harvey (London: The British Library, 2006), 405–14. Recent literature has challenged the ‘blunted impact’ thesis of J. H. Elliott, *The Old World and the New, 1492–1650* (Cambridge: Cambridge University Press, 1972).

²³ Peter Heylyn, *Cosmographie in foure bookes containing the Chorographie and Historie of the whole World* (London, 1657), 865. For an overview of the range of responses to printing and to the widening of audiences in the early decades of the printed book, see Elizabeth L. Eisenstein, *Divine Art, Infernal Machine: The Reception of Printing in the West from First Impressions to the Sense of an Ending* (Philadelphia, PA and Oxford: University of Pennsylvania Press, 2011), 4–33.

²⁴ Blair, *Too Much to Know*, 63.

the beauty and splendour of towns and cities, and to see by examining the images and reading the account . . . that which could scarcely be seen but by long and difficult journeys?’²⁵ While world maps and other large maps at small scales only offered an overview, this was exactly what a policy-maker needed. The summarizing character of maps, far from being seen as something that made them superficial and inferior, was in fact a selling point.

Harnessing the eyewitness: artefactual epistemology and science as a visual pursuit

There was not one early modern scientific epistemology, but many.²⁶ The present book examines interlocking epistemologies that emerged out of the problem of how to authenticate eyewitness testimony about distant places. The interpretation of testimony was – and arguably still is – not solely based on the experiential knowledge of a witness but also on social and ethical relationships, such as those between a witness and their interlocutor, and on the rhetorical structures of their testimony.²⁷ Andrea Frisch has excavated the shift from ‘ethical’ to ‘epistemic’ modes of witnessing between the late Middle Ages and the Renaissance. Medieval travel writers attempted to construct their *ethos* in their texts in ways that highlighted the shared ethical and social backgrounds of writer and audience: their claims to authority were ethical (tied to personal relationships), rather than epistemic (independent of their social context). When witnesses addressed audiences through the medium of the printed word, the relationship between witness and judge of testimony was no longer an ethical one: rather, the communication was between a physically absent first-hand eyewitness and an anonymous audience; their relationship was protean and unknown. The paradigm of the ethical witness, stretched to its limit, was largely transformed into that of the epistemic eyewitness whose

²⁵ Georg Braun and Franz Hogenberg, *Theatre des principales villes de tout l’univers*, 6 vols. (Cologne, 1579–1625), III, preface, sig. F.3r.: ‘que pourroit on . . . imaginer plusplaisant, qu’en quelque lieu seur hors de tout danger en sa maison propre, veoir par moyen & ayde de ces liures, . . . ornée par la beaute & splendeur des villes & citez, & veoir par l’inspection de la peinture, & lecture du recit ce qu’aultres ont a grand peine oncques pouelt veoir par voiajes longs & difficilz?’

²⁶ Dániel Margócsy, *Commercial Visions: Science, Trade, and Visual Culture in the Dutch Golden Age* (Chicago, IL: University of Chicago Press, 2014), 6.

²⁷ For a classic formulation of this point, see Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago, IL and London: University of Chicago Press, 1994).