Notes

Introduction: Why Columbus Sailed South to the Indies

1. Thus reads the controversial prologue to Columbus's *Diario* (some scholars have called it a cover letter), which reminds Fernando of Aragon and Isabel of Castile that they had ordered Columbus not to travel "by land to the East, by which way it is customary to go, but by way of the West, by which way we know not for certain that anyone has passed." See Pérez de Tudela y Bueso et al. 1994, 1:109. All translations from this collection of Columbiana are mine. In the case of Columbus's *Diario* (ibid., 1:108–245), I have frequently relied on the superb English translation by Dunn and Kelley 1989. For Columbus's most famous letters, including the letter to Luis de Santángel announcing the discovery (15 February 1493), I have consulted the translations by Cecil Jane (1930–1933/1988).
2. In the words of one eminent twentieth-century scholar, Emiliano Jos, the Discoverer bolstered his conviction that the ocean could be forded "by supposing the length of the earth's circumference to be smaller than it was, and by according the solid mass a greater number of degrees along the globe's parallels than it had" (1979–1980, 37). All translations from Jos are my own.

3. Anghiera, *De orbe nouo* 1.1, 1.2, and 1.6 (1530, iiir, vr, and xxiir, resp.). All translations from this work are my own.
4. Bernáldez 1870; Pérez de Oliva 1965; Fernández de Oviedo y Valdés 1535; F. Columbus 1571/1992; López de Gómara 1552/1992; Las Casas 1994; and Herrera y Tordesillas 1600–1615/1991. An invaluable assessment of these sources on the discovery appears in Ballesteros Beretta's erudite biography of Columbus (1945, 1:1–88).
5. Fernández de Enciso 1519, aiiiiv; Cortés y Albacar 1551/1998, xxv–xxiir; García de Palacio 1587/1998, 11v; Syria 1602/1998, 18–21; and Nájera 1628/1998, 4v.
6. For Columbus's sailing directions from Cádiz to the Canaries, see entry for 3 August 1492 in Pérez de Tudela y Bueso et al. 1994, 1:110. The account by Samuel Eliot Morison and the maps provided by Erwin Raisz for Morison's book, *Admiral of the Ocean Sea: A Life of Christopher Columbus* (1942), are still often considered the best approximations we have of Columbus's routes. I rely on this standard work in my use of modern nomenclature and in my reference to Columbus's routes by modern standards. For a recent reconstruction of Columbus's itineraries on land and on water, see Varela Marcos and León Guerrero 2002 and 2003. For recent attempts to revise standard accounts of Columbus's routes, see, for instance, Coín Cuenca 2003. A most lucid analysis of Columbus real and imagined routes appears in Cerezo Martínez 1994, 71–79 and 120–126.
7. Anghiera, *De orbe nouo* 1.1 (1530, iiir).
8. All modern-day latitudes in the present book are taken from the *Oxford Atlas of the World,* 11th ed., 2003.
9. Taviani 1985a, 69; 1996, 1:104.
10. For this royal prohibition to Columbus, see Pérez de Tudela y Bueso et al. 1994, 1:87–88.
11. Morison 1945, 1:207.
12. Coín Cuenca's study of Columbus's transatlantic route on the first voyage goes so far as to contend that Columbus concealed in his *Diario* the fact that he was descending to the approximate latitude of the Cape Verde Islands (19° N) in search of lands about whose existence he had previous intuition or information (2003, 69–79). This study, however, should be treated with extreme caution, in view of its misrepresentation of crucial sources like Anghiera 1530, Bernáldez 1870, and particularly Fernández de Oviedo y Valdés 1535.
13. Pérez de Tudela y Bueso et al. 1994, 1:119–120. Wry disagreement exists concerning the site of the landfall originally identified as Watling Island by the eighteenth-century official historian Juan Bautista Muñoz in his unfinished *Historia del Nuevo Mundo* (1793/1973). A general account of this long-standing debate can be found in Taviani, who subscribes to the thesis that San Salvador is Watling Island (1996, 2:175–215). A skeptical but intelligent treatment of this and other theses that all too readily rely on the extant summary copy of the *Diario* for identifying the modern site of the

landfall appears in Henige 1992, 157–286. For a guide to the literature published on this subject until just before the last quincentenary celebration of the discovery, see Provost 1991.

14. Entry for 13 October 1492 in Pérez de Tudela y Bueso et al. 1994, 1:123.
15. This point has been kindly urged on me by Felipe Fernández-Armesto.
16. Pérez de Oliva 1965, 41 and López de Gómara 1552/1979, 28–29.
17. Columbus measured the latitude for Puerto Gibara twice, on 30 October and 2 November 1492. Another measurement off the coast of Cuba resulted in the same figure of 42° N in the *Diario*'s entry for 21 November. Columbus also measured the latitude of Moustique Bay on 13 December of that year. For these four entries, see Pérez de Tudela y Bueso et al. 1994, 1:138, 141, 152, and 174, resp. That the *Diario* might have been altered in court to keep possible spies in the dark, is suggested by Queen Isabel's letter to Columbus of 5 September 1493, on the eve of his second voyage, mentioning the delivery of a transcript of the original *Diario* to its author that had been drafted in secret and, as the queen explains, "in two handwritings" (*de dos letras*). See Pérez de Tudela y Bueso et al. 1994, 1:483–484. The most compelling technical explanation to date for the erroneous latitudes registered by the *Diario* has been forwarded by Laguardia Trías 1963 and 1974.
18. Pérez de Tudela y Bueso et al. 1994, 1:254–255.
19. Ibid., 1:523–538.
20. For an attentive analysis of the map attributed to Juan de la Cosa, see Cerezo Martínez 1994, 88–118.
21. Pérez de Tudela y Bueso et al. 1994, 1:489.
22. Fernández de Oviedo y Valdés, *La historia general y natural de las Indias* 2.9 (1535, 12v–13v).
23. Ibid. 2.8 (11v). All translations from this work are my own.
24. Pérez de Tudela y Bueso et al. 1994, 1:619–625.
25. Ibid., 2:721–746; this quote, 730.
26. Ibid., 1:726.
27. See his *carta-relación* of the third voyage in ibid., 2:1093–1119; this quote, 1096.
28. Ibid., 2:1097.
29. Ibid., 2:1097–1098. For the course he steered at this point, "north by northwest" (*al norte, cuarta del nordeste*), see Las Casas *Historia de las Indias* 1.5.4.131 (1994, 2:1040).
30. Ibid., 1.5.4.131 (2:1041). All translations from Las Casas's *Historia* are my own.
31. Columbus assigned 24° to the distances of the tropics of Cancer and Capricorn from the equator. For instance, in his *carta-relación* of the fourth voyage (7 July 1503), he reminds us that during his exploration of southwestern Cuba on the second voyage he had followed the twenty-fourth parallel to the west. (As we have seen, the *carta-relación* of the second voyage has already referred to the parallel he was tracing as that of *Cancro*.) In his letter of the fourth voyage, Columbus also refers to

Marinos of Tyre's estimate in Ptolemy's second-century *Geography* that the inhabited world extended south all the way to the Tropic of Capricorn, explaining that Marinos had placed the southern limit of Ethiopia in sub-Saharan Africa "at more than twenty-four degrees" south of the equator (*más de 24 grados*). See Pérez de Tudela y Bueso et al. 1994, 3:1519–1545; this quote, 1524. This is also the figure assigned to either tropic in the geographical sketches drawn by Alessandro Zorzi in his *Informazione di Bartolomeo Columbus della Navegazione di ponente et di garbin di Beragua nel Mondo Novo* [about 1506], apparently following Columbus and his brother Bartholomew's own view of the lands explored by Columbus since 1492.

32. Colón 1992, 382; my translation. I here follow Varela's paleographic interpretation of *[. . .]es* as *q'es,* meaning, "that is": *tierra infinita q'es al austro.* Pérez de Tudela y Bueso et al. 1994, 2:1116 interprets *[. . .]es* as *pues,* which would render instead "infinite land, because to the south of it no one has ever taken notice" (*tierra infinita: pues al austro dela qual / fasta agora no se a avido notiçia*). This rendition incorrectly implies that this "infinite land" had been previously discovered by Europeans, and that no one knew what lay south of it, which, given that Columbus is the first European known to have surveyed the coast of South America, is simply not what he means. Varela's interpretation, on the other hand, correctly interprets Columbus's "infinite land" as a continent extending toward the southern hemisphere. For Ferdinand's and Las Casas's versions of this entry in Columbus's log for the third voyage, see F. Columbus, *Historie del S. D. Fernando Colombo* 71 (1571/1992, 161v–163r); and Las Casas, *Historia* 1.5.4.138 (1994, 2:1068–1072). A crucial qualification of Columbus's claim that he had reached the outskirts of Eden on his third voyage appears in Scafi's long-awaited history of the cartography of Paradise in the Western tradition (2006, 240–242).
33. Pérez de Tudela y Bueso et al. 1994, 2:1229–1239; this quote, 1230.
34. Ibid., 3:1438–1440; this quote, 1438.
35. Morison 1942, 2:380; Taviani 1991, 1:251.
36. Pérez de Tudela y Bueso et al. 1994, 3:1519–1545; this quote, 1523.
37. López de Gómara 1552/1979, 19. All translations from this work are my own.
38. See Pérez de Tudela y Bueso et al. 1994, 3:1391, a declaration Columbus wrote some time between 1501–1502, reasserting the rights and privileges that he was trying to persuade the Crown to restore to him.
39. For syntheses of these factors, see the nautical biography of Columbus by Morison 1945, 1:203–219 and 264–267; see also Taviani 1991, 1:12–18 and 2:36–38.
40. Taviani 1990, 139–144.
41. Morison 1942, 1:207. As we shall see, early testimony of the plan Columbus had presented to King Dom João II during his years in Portugal, speaks about "Çipango and other terrae incognitae" as Columbus's targets.

42. Pérez de Tudela y Bueso et al. 1994, 1:152.
43. Las Casas, *Historia* 1.5.4.131 (1994, 2:1038).
44. Pérez de Tudela y Bueso et al. 1994, 3:1527; emphasis added.
45. Fernández de Navarrete 1825, 2:103–105.
46. Pérez de Tudela y Bueso et al. 1994, 2:835.
47. Ferrer's treatise was part of a commentary on Dante's *Divina commedia* which was later included in a compilation of his works (Ferrer de Blanes 1545/1922–1925, Dr ff.).
48. Pérez de Tudela y Bueso et al. 1994, 2:832.
49. Ibid., 2:1096. Oddly enough, Harrisse 1871 and Lollis 1892/1969, both of whom emphasize the influence of Toscanelli on Columbus and the object of reaching Magnokhanic Asia, pay little attention to Columbus's southing and do not mention Ferrer at all.
50. See Irving 1828, 2:151–153; and Taviani 1991, 1:180–192 and 2:218–236. Taviani's account of the origins of the discovery, *Cristoforo Colombo: La genesi della grande scoperta* (1974; English trans. 1985a), along with *I viaggi di Colombo: La grande scoperta* (1984; English trans. 1991), have been most recently revised to appear as a single work titled *Cristoforo Colombo* (1996). However, except for information expressly excerpted from this latest Italian edition, I use the available English translations of the earlier two works (1985a and 1991, resp.).
51. See note to Doc. 311 Pérez de Tudela y Bueso et al. 1994, 2:833.
52. Jos 1979–1980, 70.
53. An indispensable guide to the vast bibliography on Columbus is Provost 1991. I followed Provost's lead in consulting the following works on Columbus's navigation and, more specifically, on his measurement of latitudes: Bertelli 1892; D'Albertis 1893; Desimoni 1894; Young 1906; Dunraven 1912; Charcot 1928; Magnaghi 1928 and 1930; Williamson 1930; Fontoura da Costa 1934/1960; Nunn 1937; McElroy 1941; Morison 1942; Rey Pastor 1945; Laguardia Trías 1963, 1974, and 1992; García Frías 1974; Rogers 1976; 1985a, 1991, and 1996; Kelley 1987 and 1998; Charlier 1988; Cerezo Martínez 1994; Varela Marcos and León Guerrero 2002; and Coín Cuenca 2003, among others.
54. Fernández de Oviedo y Valdés, *La historia general y natural de las Indias* 2.4 (1535, iiiiv); Morison 1942, 1:240–263.
55. Humboldt 1836–1839, 3:20–25; my translation.
56. See Vignaud 1902, 1905, and 1911; Ulloa 1928; Carbia 1930/1936; Jane 1930–1933/1988; Manzano Manzano 1976; and Pérez de Tudela y Bueso 1983 and 1994.
57. Fernández de Oviedo y Valdés, *La historia general y natural de las Indias* 2.2 (1535, iiv–iiir).
58. Vignaud 1911, 1:176 and 2:174–175. All translations from Vignaud are my own.
59. Jane 1930–1933/1988, 1:xcix–cxxii.

60. As Jane asserts, "The more the real nature of his opinions is considered, indeed, the less probable does it appear to be that they can have had any scientific basis, the less probable does it appear to be that Columbus was possessed of even a tithe of the scientific knowledge with which he is credited by his son and to the possession of which he himself laid claim" (Jane 1930–1933/1988, 1:lxix).
61. Pérez de Tudela y Bueso et al. 1994, 2:1281–1285; this quote, 1282.
62. Strabo, *Geography* 2.1.35 (1917–1932).
63. Averroës 1562/1962, 435v L. All translations from Averroës are my own. Averroës owes this claim in part to Aristotle's horizontal division of the globe into hot, cold, and temperate zones in *Meteorologica* II, 5 (1995c).
64. Ptolemy's *Geography* 1.9 (Berggren and Jones 2000, 69).
65. See Las Casas's *Brevissima relaçion dela destruyçion delas yndias* (1552b).
66. Taviani 1991, 1:59–67 and 2:89–93.
67. Ailly and Gerson 1480–1483/1990, 13v. All translations from this work are my own, in consultation with the Spanish translation by Antonio Ramírez de Verger. In the particular case of d'Ailly's *Ymago mundi* (1410), I have also consulted the French translation by Edmond Buron (1930).
68. See Virgil, *Georgics* 1.321–329 (1981); Ovid, *Metamorphoses* 1.45–51 (1991); Mela, *Description of the World* 1.3 (1998); Pliny, *Natural History* 2.68 (1938–1963); and Lucan, *La guerre civile* 9.852–874 (1998). But perhaps the most detailed and influential source in this regard would be Macrobius, *Commentary on the Dream of Scipio* 2.5–9 (1990).
69. Pérez de Tudela y Bueso 1994, 2:853–869; this quote, 863.
70. Waldseemüller 1507/1907, 47.
71. Translation by Robert Mac Donald. For a superb analysis of this map, and of the process by which Waldseemüller and his colleagues came to introduce the name America, see Johnson 2006.
72. Fernández de Enciso 1519, aiiiiv. All translations from this work are my own.
73. Anghiera, *De orbe nouo* 8.10 (1530, cxviir).
74. López de Gómara 1552/1979, 14.
75. Herrera y Tordesillas 1600–1615/1991, 1:264; my translation.
76. For indispensable treatments of the concept of invention in connection with the discovery, see O'Gorman's classical work 1958/1977; Rabasa 1993; and Padrón 2004, 1–44.
77. See, for instance, crucial works like Arnold 1996 and Stepan 2001.
78. Las Casas 1992; Acosta 1590/1998; and Vega 1609.
79. Cañizares Esguerra 1999.
80. Bolívar 1815/1976; Bello 1826.

1 *Machina Mundi*

1. For a provisional definition of colonialism, see Osterhammel 1997, 16–17: "A relationship of domination between an indigenous (or forcibly imported) majority and a minority of foreign invaders. The fundamental decisions affecting the lives of the colonized people are made and implemented by the colonial rulers in pursuit of interests that are often defined in a distant metropolis. Rejecting cultural compromises with the colonized population, the colonizers are convinced of their own superiority and of their ordained mandate to rule." Colonialism, as Osterhammel explains, "is not only a relationship that can be described in structural terms, but also a particular *interpretation* of this relationship" (16). The present book considers the broad intellectual framework that gave shape to this modality of empire in the earliest years of Spain's occupation of the Americas.
2. Wagner and Parish 1967 remains a reliable biography of Las Casas. See also the synthetic biography by Parish 1992 and her collaborative work on Las Casas's residency in Mexico, Parish and Weidman 1992. Extensive and painstaking documentation on Las Casas's life and works is to be found in Pérez Fernández 1981, 1984, and 1994. An indispensable assessment of the range of Las Casas's activities and learning can be found in Adorno 1992.
3. Las Casas's status as Columbus's "editor" must be qualified: only a handful of originals by Columbus is preserved (Varela 1992, 80–83). A significant share of Columbus's writings is known to us only through Las Casas, who fully or partially cited or paraphrased them along with a vast array of other sources (Varela 1988, 29–30). The summary copy of the *Diario* was made in preparation for the writing of *Historia de las Indias,* along with a copy of a *carta-relación* of the third voyage (1498–1500), which, until the discovery in 1985 of a collection of letters known as Columbus's *Libro copiador,* remained the only extant version of this letter (Gil 1992a, 76–79; see Doc. 6 in Rumeu de Armas 1989, 1:343–373). Independent versions of Columbus's letters attest to Las Casas's accuracy as an amanuensis (Varela 1988, 29–37). The extent to which Las Casas may have altered the original contents of the *Diario* itself, however, has been fiercely debated by Americanists: one influential thesis maintains that Las Casas merely copied, corrected, and added interpolations to an already altered copy rendered by a Crown amanuensis (Rumeu de Armas 1976; 1973, 127–133). Against this view, another thesis contends that while Las Casas handled his sources meticulously he himself copied and summarized a complete copy of the original. The passages Las Casas transcribed literally would have been those he considered fundamental to his own arguments in *Historia de las Indias* (Pérez Fernández 1994, 203–213). Other theses deem Las Casas's mediation of the *Diario* far more intrusive: while Columbus might be considered the author

of the quoted passages, the alterations suffered by the original, particularly in the hands of Las Casas, warrant treating the *Diario* as a composite document and Las Casas as one of its "authors" (Henige and Zamora 1989; Henige 1991, 11–30 and 54–64). On the far end of this debate, it has been argued that Las Casas intentionally altered the contents of the original log to reflect his own views of the discovery as an event of primarily theological significance (Zamora 1993, 21–94). An important critique of Henige's and Henige and Zamora's views appears in Hulme 1993. The present book assumes a double perspective of the *Diario*—both in line with other documents more directly attributable to Columbus and in line with the argument of Las Casas's *Historia de las Indias*. On the subject of Las Casas as a source on Columbus's life, see Ballesteros Beretta, whose richly documented biography of Columbus considers Las Casas's *Historia de las Indias* "the most abundant and detailed source on the Columbian era" (1945, 1:34–55; this quote, 50; all translations from Ballesteros Beretta are my own); as well as Wagner and Parish's indispensable biography of Las Casas (1967, 195–208). On the subject of Las Casas's extensive documentation in *Historia de las Indias*, the fullest treatment to date is Pérez Fernández 1994, 3:185–269.

4. Las Casas's summary copy of the *Diario* and the manuscript of *Historia de las Indias* are preserved at the Biblioteca Nacional de Madrid (MS Vitrina 6–7 and MS res. 21, 22, 23, resp.). D'Ailly's *Ymago mundi* (1410) survives as part of d'Ailly's and Gerson's annotated *Tractatus* in the Biblioteca Capitular y Colombina de la Catedral de Sevilla (GG-178-21).
5. For an extensive catalogue of authors and works directly or indirectly known to Columbus, see West and Kling 1991, 7–40. For indispensable treatments of Columbus's scientific and technical sources, including succinct descriptions of the works Columbus owned or knew most directly, see Contreras 1979 and 1992. See also Flint's synthesis of Columbus's intellectual formation, which includes a rich consideration of Columbus's marginalia to the works he owned (1992, 42–77); and Gil 1989, 21–223, although the author insists—against a rather broad consensus—that d'Ailly's and Gerson's *Tractatus* and other works annotated by Columbus were not purchased until 1497, when Columbus saw the need to arm himself with authoritative works to fend off his project's detractors.
6. The Biblioteca Capitular y Colombina holds two other works heavily annotated by Columbus: the geography by Aeneas Sylvius Piccolomini (Pope Pius II), *Historia rerum ubique gestarum* (Cologne, 1477), which along with *Tractatus de ymagine mundi* appears to contain the earliest postils (Contreras 1992, 166); and Francesco Pipino's abridged Latin translation of Marco Polo's *Il milione: De consuetudinibus et condicionibus orientalium regionum* (Antwerp, 1485), which Columbus did not purchase until 1497 (Vigneras 1957). Other incunabula in this library that Simón de la Rosa y López 1891 identified as Columbus's are the following: Christophoro Landino's Italian translation of Pliny the Elder's major work, *Historia naturale* (Venice, 1489); Abraham Zacutus's 1473 *Almanach perpetuum* (Leirea, 1496); Alfonso de Palencia's Spanish translation of Plutarch's *Parallel Lives* (*Vidas*

de los ilustres varones, Seville, 1491); a manuscript of the anonymous fifteenth-century *Concordiae Bibliae Cardinalis;* a work dubiously attributed to Albertus Magnus, *Philosophia naturalis* or *Philosophia pauperum* (Venice, 1496); St. Anthony of Florence's *Sumula confessionis* (Venice, 1476); and a fifteenth-century palimpsest of Seneca's *Tragedies.* Both Pliny's *Historia* and Plutarch's *Vidas* contain scant marginalia by Columbus. The works held at the Biblioteca Capitular y Colombina also include the celebrated manuscript of his *Libro de las profecías* (dated 1504), which is a compilation of scriptural passages that Columbus believed to prefigure his discovery. Finally, Columbus's "library" includes an annotated copy of Claudius Ptolemy's *Cosmographia* (Rome, 1478), which is held at the Biblioteca de la Real Academia de la Historia. For the description and history of this incunabulum, see Contreras 1992, 139–145.

7. The claim that d'Ailly and other authors played no part in the genesis of the discovery was championed by Vignaud 1905, 297–299, who revived the legend of the anonymous pilot printed in 1535 by Gonzalo Fernández de Oviedo in *La historia general y natural de las Indias* 2.2 (1535, iiv–iiir). According to this legend, the pilot from a ship carried across the ocean by a storm had confided to Columbus that he had found inhabited lands to the West. Vignaud's claim about d'Ailly was subsidiary to Vignaud's general thesis that Columbus's goal was not Asia, but the lands discovered by his pilot friend. For an outline of this famous thesis, see Vignaud 1911, 2:483–485. For an early reply to Vignaud, see Salembier 1914. Much of the ensuing debate over d'Ailly's role has concerned the dating of Columbus's postils. A forceful refutation of Vignaud's claim was issued by d'Ailly's most distinguished modern editor, Buron 1930, 1:16–37, though his own dating of Columbus's postils to as early as 1481 was later shown to be hasty. Caraci 1971 assigns 1491 as the latest possible date for Columbus's reading of d'Ailly on the basis of postil 621 to *De correctione kalendarii,* which reads "in this year 1491" (*hoc anno 1491*) (see also Watts 1985, 85–86). Manzano Manzano—a recent advocate of the thesis of the "anonymous pilot"—nonetheless assigns d'Ailly a significant role in the planning stages of the discovery (1976, 177–178), while Pérez de Tudela y Bueso, whose peculiar formulation of a pre-discovery traces Columbus's project to a fancied encounter between a Portuguese ship and a canoe carrying a party of Antillean women, denies Columbus's readings any significant role in the conception of his enterprise (1983, 11–14; 1994, lxxx–lxxxiii). (A shrewd assessment of Manzano Manzano's and Pérez de Tudela y Bueso's theses appears in Larner 1988, 9–19.) The rather standard view that Columbus resorted to d'Ailly and other authors during his years in Castile (1485–1492), after he had first envisioned finding land in the high Atlantic but before he launched his first voyage, appears in Morison 1942, 1:120–125; Manzano Manzano 1964, 84–87; and Taviani 1985a, 174–179, 1985b, and 1985c). However, dust never settles for long on any matter concerning Columbus. See, for instance, Gil's claim that Columbus remained unfamiliar with d'Ailly until 1497 (1989, 123–126; restated in 1992b, ix). Gil's claim is based on a letter

from Bristol merchant John Day to Columbus accusing shipment of a copy of Marco Polo's work (Vigneras 1957, 226–228). Gil takes this letter to be compelling evidence that the extant copy of d'Ailly's work was included in this shipment. Gil's thesis is reiterated in Comellas's version of the genesis of the discovery (1991, 102–117).

8. See Mandonnet 1893a and 1893b. Years after the discovery, Columbus acquired a copy of Albertus's *Philosophia naturalis* (Venice, 1496)—an epitome, probably spurious, of Albertus's commentaries to Aristotle's *Physica, De caelo, De generatione et corruptione, Meteorologica,* and *De anima* (Rosa y López 1891, 20). Columbus's copy of the *Philosophia,* which Albertus scholars have in the past misidentified as *De natura loci* (Bergevin 1992, 92; Tilmann 1971, 8; and Schneider 1932, 65–67), is barely mentioned in key studies of Columbus's sources (West and Kling 1991, 25; Contreras 1992, 136–137; and Flint 1992, 199).
9. For Ferdinand's and Las Casas's versions of the intellectual origins of the discovery, see F. Columbus, *Historie del S. D. Fernando Colombo* 1–15 (1571/1992, 11–38v), and chaps. 1–14 of Las Casas, *Historia* 1.1.1.1–1.1.5.14 (1994, 1:353–410), resp. For Benjamin Keen's English translation of Ferdinand's biography of his father, see F. Columbus 1992.
10. F. Columbus claimed, for instance, that his father had studied at the University of Pavia (*Historie* 3 [1571/1992, 7v]). Regarding this famous blunder, see Morison 1942, 1:17–18. For more detailed considerations of this aspect of Columbus's life, see Ballesteros Beretta 1945, 1:207–215; and Taviani 1985a, 45 and 268–270. The earliest Columbus scholar to have shed doubt on the authorship of the Fernandine *Historie* was Henry Harrisse, who argued (mistakenly) that the *Historie* had been ghostwritten by one of Fernando's close acquaintances, Hernán Pérez de Oliva (Harrisse 1871, 91). Later scholars have variously claimed that the *Historie* was a total or partial forgery by Ulloa, Las Casas, or others. Rumeu de Armas, for instance, attributes Ferdinand's *Historie* 1–15 (except chapter 6) to an "anonymous biographer" whom Las Casas would have failed to recognize as the true author of these chapters on Columbus's early years (1970; in expanded form, 1973, 67–118 and 237–317). For a consideration of Rumeu's claim, as it concerns Las Casas's documentation for his own account of Columbus's early years, see Pérez Fernández 1994, 194–199. On the general history of this debate, see Ballesteros Beretta 1945, 1:65–74; the useful discussion by Taviani and Caraci 1990, 2:23–64, in the Italian edition of Ferdinand's *Historie* recently printed as part of the Nuova Raccolta Colombiana; and the recent synthesis by Marín Martínez 1993, 1:223–238, who suscribes to the moderate thesis that considers Ferdinand's *Historie* to be authentic, despite inaccuracies attributable to him or to intermediaries of the version we know. The best synthesis of the scholarship on this problem is provided by Taviani and Caraci 1990, 2:23–64.
11. On the origins of the misconception that Columbus's belief in the globe's sphericity went against the views of his contemporaries, see Russell 1991; Cormack 1995.

12. A useful recent synthesis of the intellectual genesis of the discovery can be found in West 1992. For the standard treatments of the traditional thesis initiated by Ferdinand, see Morison 1942, 1:76–129; Ballesteros Beretta 1945, 1:307–358, 365–373, and 493–503; Taviani 1985a, 127–185 and 383–455; and Heers 1981, 129–168. Ballesteros Beretta and Taviani contain rich bibliographies and consider central debates regarding Columbus's formulation of his project. Other eminent treatments include Jos 1942 and 1979–1980, 33–50; Manzano Manzano 1976, 177–238, and 1964, 82–96; Cioranescu 1967, 11–57. Though he assigned a minimal role to d'Ailly in the genesis of the discovery, Nunn (1924 and 1937) still offers a useful study of the technical aspects of Columbus's geography. A helpful account of the worldview that anticipated these aspects of Columbus's geography can be found in Simek 1996.
13. D'Ailly is usually cited in strict relation to these fundamentals: see, for instance, Kravath 1987, 160–164; Phillips and Phillips 1992, 79 and 109; Simek 1996, 35–37, 49–51, and 93; Buisseret 1998; and West 1998.
14. See the monumental work on Columbus's messianic thought by Milhou 1983; and the study of Columbus's *Libro de las profecías* by West and Kling 1991. Flint (1992, 3–41 and 149–214) and Zamora (1993, 95–151), building in part on Woodward's indispensable work on medieval *mappaemundi* (1987, 286–370), offer valuable insights into Columbus's sacred cartography. In this connection, see also Sweet 1986; Kadir 1992, 40–61; Rabasa 1993, 49–82; and most recently Watts, who points to the eschatological content of Columbus's geography as part of her argument that religious ideology strongly persisted in Renaissance cartography well beyond the introduction of Ptolemy's *Geography* (Watts 2007, 385–387). While all of these works usefully mention d'Ailly, the works that have most significantly changed our understanding of d'Ailly's legacy to Columbus are Watts 1985, which examines Columbus's prophetic ideology, and Smoller 1994, which has done more to explain the full scope of d'Ailly's thought than any other study since Buron's pioneering work on the subject (1930, 1:91–113).
15. López de Gómara 1552/1979, 28–29.
16. I follow Lang's use of the term Neoplatonism as a set of widely diverse philosophical arguments whose ultimate premise was Plato's concept of the Good or the One (1992, 250n2). In the present book, the term Neoplatonism applies more distinctly to those arguments that posited nature as *efficient* with respect to things that were "by nature" and as second cause or instrument of God (see chapter 4). For a discussion of the varieties of Platonic thought and of its early derivations, see Gersh 1986, 1:1–50. An indispensable source on the reception of Aristotle by his early commentators is the collection of essays edited by Sorajbi 1990. On the varieties of Platonism that preceded the rise of Aristotelianism in the Latin West, see Chenu 1997, 49–98.
17. See Aristotle's definition of nature in the *Physics* 2.1.192b9–23 (1995i). Aristotle provided scholastic writers with the blueprints for discussing place in connection with the nature of existents. I am,

provisionally, following Aristotle's assertion that every physical body "is naturally carried to its appropriate place and rests there, [which] makes the place up or down" (*Physics* 4.4.211a4–5); and his treatment in *On the Heavens* 4.3–5 (1995f) of the tendency of the four elements—earth, water, air, and fire—to be moved by virtue of their heaviness or lightness to their proper places toward or away from the center of the spherical cosmos.

18. See Albertus Magnus, *De natura loci* 1.1 (1980b, 2, lines 71–74): "Every productive and operative power comes from heaven." All translations from *De natura loci* are my own, in consultation with Tilmann 1971. This power did not come directly from the periphery of the cosmos but through intermediate bodies that successively acted as locating bodies, or places, for others. Necessary treatments of the contradictions between Aristotle's physics and the views of the Neoplatonists can be found in Lemay's study of Albumasar's astrological *Introductorium in astronomiam* (1962, esp. 41–132) and in Lang's analysis of the manner in which medieval writers altered crucial aspects of Aristotle's physics (1992, esp. 97–160). The paradoxes incurred by Albertus in *De natura loci* have been kindly suggested to me by Lang.

19. The pervasive emplacement of physical creatures in the spherical cosmos was by no means new to early Christian commentators of Aristotle's natural works such as Albertus. The medieval concept of the *scala naturae*—principally rooted in Plato, Aristotle, and Plotinus—had already reached the Christian West in the works of church authors like Saint Augustine or the fifth-century Pseudo-Dionysius the Areopagite as well as in Macrobius's influential synthesis of Neoplatonic doctrine, the fifth-century *Commentarium in somnium Scipionis*. For a general understanding of the concept of the Great Chain of Being as a spatial concept, see Lovejoy 1964, 52–66, 99–103, who offers an implicit discussion of the subject; and Kuntz 1987. For an informative treatment of the concepts of "place" that preceded Aristotle's introduction into the Latin West during the twelfth and thirteenth centuries, see Casey 1997, 3–115, even though the author emphasizes the emergence of the concept of "absolute space" in Western philosophy.

20. This point is strongly illustrated by Lamb in her studies of Spanish cosmography and navigation (1969a, 1985, and 1995b; collected in 1995a); and by Cosgrove 2001, 102–138, in his discussion of the Neoplatonic reception of Ptolemy's *Geography* in the Renaissance. Cognate views are held by Brotton, in his study of the connection between cartographic production and commercial expansion in early modern Europe (1998, 17–45, esp. 19); and by Grafton, Shelford, and Siraisi, who maintain not only that the empirical knowledge facilitated by geographical exploration during the fifteenth century neither immediately nor cleanly displaced the learned context in which geography had long been practiced in Europe, but also that the practical culture of explorers and merchants remained intimately connected with learned (that is, scientific and technical) culture well into the mid-sixteenth century: "Merchants and navigators on the one hand, scholars and philosophers on the

other inhabited much the same cosmos, imagined much the same history, and saw no necessary conflict between the lessons of experience and those of books" (1992, 68). A demonstration of the overlap between geography's "learned" and "practical" contexts in the Renaissance appears in Lamb 1969b, 1974, 1976, 1985, and 1995b (collected in 1995a); as well as in Cormack's case study of the teaching of geography in English universities (1997, 25–26 and 48–89) and in her more recent study of the pedagogical use of maps in the Renaissance (2007). For a study relevant to the question of geography's ties to other disciplines, see Livingstone 1992, which argues forcefully for a geographical historiography attentive to the complex reciprocity between geography and its intellectual and social contexts (see esp. 1–23). With the recently published third volume of the History of Cartography, *Cartography in the European Renaissance* (Woodward 2007b), a loud call is being issued to consider the network of disciplines that reflected the harmony and internal workings of the Aristotelian cosmos as a fundamental link in the development of geographic, more specifically cartographic, knowledge from the later Middle Ages to the Renaissance. Making a case for the need to understand "the social and intellectual frameworks in which maps were produced and used" in the later Middle Ages, Morse underscores that world maps from this period conceptualized the earth itself as part of the system of the world (2007, 30–34; this quote, 30). As Morse argues, "part of the curiosity about the physical world that characterized the twelfth-century Renaissance was the desire to understand the earth as part of a system. The concern among philosophers for the *machina uniuersitatis* or the *machina mundi* led them to focus on the system underlying the universe and the laws that governed it. The details of the earth itself . . . were of less interest to them than the grand mechanism of the world" (31). For his part, Cosgrove shows the persistence of such a connection for the study of geography in Renaissance cosmography's representation of the world-machine (2007, 82–87). For a new and fundamental discussion of the continuities and discontinuities in the transition between late medieval and early modern cartography, see Woodward 2007a.

21. Ferrer Maldonado 1626, 49.
22. My translations.
23. Glacken 1990, 270.
24. Alexander von Humboldt observed that crucial aspects of Columbus's geography were indirectly derived through d'Ailly from Roger Bacon. See Watts 1985, 82; and Humboldt 1836–1839, 1:63–64. Scholars in recent years have shown that d'Ailly's borrowings from Bacon extended well beyond geography and include Bacon's astrology and apocalypticism. See Watts 1985, 86–92; and Smoller 1994, 30–31 and 53–57.
25. For an explanation of Ptolemy's contribution to the field, see Dilke 1987; Berggren and Jones 2000, 3–54.

26. In his dedication to Pope Alexander V, Jacopo insisted on this mistranslation of the Greek original, because the word *cosmos* meant the earth and sky together, and this, argued Jacopo, was the very subject of Ptolemy's *Geography* (see the Bologna edition, 1477). On the multiple uses of the term "cosmography" in the Renaissance, see Cosgrove 2007, 56–61. On the reintroduction of Ptolemy's *Geography* at the turn of the fifteenth century, see Aujac 1998 and Gautier Dalché 2007, esp. 287–295. For a classic account of the *Geography*'s impact in Europe, see Edgerton 1987, though one should treat with caution the author's implicit view that the mathematical spatiality introduced by Ptolemy's *Geography* stood in competition with medieval cartography's highly ideological spatiality. The related view that Ptolemy's *Geography* revolutionized medieval space by turning it into a "neutral space" mapped by a grid system can be found in works like Crosby 1997, 97–98. These traditional views of the impact and meaning of Ptolemy's *Geography* have been strongly contested by Biddick 1998 and, most particularly, by Gautier Dalché 1999 and 2007. In a finely nuanced discussion of the multiple fates of Ptolemy's *Geography* in the Renaissance, Gautier Dalché most recently argues that the reintroduction of this work to the Latin West should no longer be seen as a single, revolutionary event that would have rescued cartography from the allegedly "non-scientific" ideas of the Middle Ages, or that would have automatically invited Ptolemy's readers to discard the authority of received knowledge in favor of the authority of experience. The author argues instead that Europe's assimilation of the *Geography* was only very gradual; that it "took place in an intellectual and cultural context within which complex and varied motivations were at play" (2007, 285); and that, rather than continue to engage in a discussion of the technical "progress" presumably represented by the "rediscovery" of the *Geography*, we would do better "to describe what was going through the minds of [Renaissance] scholars as they read the work of the Alexandrine geographer; to articulate what they saw as the purpose behind the study of such texts and maps; and finally, to judge whether the results measured up to their expectations" (286). Gautier Dalché amply shows that the multifarious context in which Ptolemy's work was assimilated not only included modes of representing space that were hardly seen as incompatible with Ptolemy's, but also included the reading of his work in relation to multiple areas of knowledge that today might seem irrelevant for the study of cartography. Cosgrove, for his part, has argued that Ptolemy's *Geography* continued for a long time to be placed "at the heart of all learning" (2001, 109). And, pointing to geography's pervasive interdisciplinarity in the early modern period, the author most recently cautions that only by "softening disciplinary boundaries today" can we arrive at "a sympathetic understanding of the achievements and failures of Renaissance cosmography" (2007, 56). Cosgrove has also noted that Jacopo d'Angelo's "linguistic fusion of geographical mapping and cosmography introduced a continuing tension within Renaissance cosmography, apparent in its graphic presentation" (55). Cosgrove would ultimately seem to suggest that it is precisely the

multidisciplinary comprehensiveness admitted to the genre by Jacopo's deliberate mistranslation of Ptolemy's title as *Cosmographia* that helped to bring about a crisis of identity in Renaissance cosmography, especially as more and more information kept being assimilated to the corpus. For stimulating refutations of the alleged "neutrality" of Ptolemaic spatiality, see Mignolo 1995, 219–258; and Padrón 2004, 35–41.

27. A similar view has been put forward recently by Gautier Dalché (2007, 299–301), who shows that d'Ailly meticulously read Ptolemy's *Geography,* comparing its data with information provided by long-established Latin sources. Incidentally, d'Ailly's astrological use of terrestrial coordinates had been common currency among his Arabic and Latin predecessors. On the uses of latitude and longitude in the Middle Ages, see Wright 1923. Cartography's connections to astrology in the late medieval and early modern periods deserve far more attention than they have received. The subject is typically acknowledged but treated gingerly in important studies such as Harley and Woodward 1987, 502–509 ("Concluding Remarks"), esp. 507; and Livingstone 1992, 66–83. A requisite study in this regard is Aujac 1993, 7–191, which argues for the need to understand Ptolemy's *Geography* as part of a cosmological system that ties it to both his astronomical *Almagest* and his astrological *Tetrabiblos*. It should be added that Christian writers had been treated to Ptolemaic geography long before Jacopo d'Angelo's 1406 translation of the *Geography,* both in the *Almagest*—first translated into Latin by Gerard of Cremona in 1175—and, significantly, in the astrological *Tetrabiblos* (or *Quadripartitum*)—translated by Plato of Tivoli in 1138. For the dates of these translations, see Haskins 1924, 15 and 68, resp.). For the explicitly geographical segments in these works, see Ptolemy, *Almagest* 2.6 (1998) and *Tetrabiblos* 2.2–3 (1980).
28. On d'Ailly's life and his role in the schism, see Guenée 1991. On d'Ailly's and his contemporaries' preoccupation with the Antichrist, see Guenée 1991, 130–132; Smoller 1994, 85–101.
29. The immediate source for D'Ailly's historical astrology was Abū Ma'shar's *De magnis coniuntionibus* (Albumasar 1515); see Smoller 1994, 61–84. On the dissemination of conjunctionist explanations for religious and political change in Christian Europe, see Garin 1990, 1–28; and North 1989. Of related interest are Parel's recent work on Machiavelli's philosophy of history (1992, 26–62), and Grafton's study of Cardano's astrology (1999, 38–55 and 127–155).
30. For an excellent survey of environmentalist theories in the Spanish colonial Americas, see Cañizares Esguerra 1999. The author contends that race theory has its prehistory, not in nineteenth-century Europe, but in seventeenth-century Spanish America, with the revision by local elites of European astrology and humoral physiology. For a recent assessment of Las Casas's geopolitics in the *Apologética,* see Padrón 2004, 173–181.
31. Among Las Casas's most controversial moves during his long career as an advocate of Indian rights was the drafting for his bishopric in Mexico of a *confesionario* that instructed priests to deny dying

Spanish colonists final absolution lest they return all property expropriated from Indians under their care. This confessional guide, which was instantly read by Las Casas's enemies in Spain as a challenge to Charles V's titles to his possessions in the Americas, earned Las Casas the charge of "high treason" before the Council of Castile shortly after his last return to Spain in 1547. On this episode in Las Casas's life, see Wagner and Parish 1967, 166–174; Parish 1992, 45–46; and, especially, Parish and Weidman 1992, 57–70. A later version of this confessional guide which Las Casas published without license as *Aqui se contienen unos avisos y reglas para los confessores que oyeren confessiones delos españoles que son o han sido en cargo a los Indios delas Indias del mar Oceano* succinctly illustrates Las Casas's most radical indictment of the conquest: "All deeds performed throughout these Indies—from the arrival of Spaniards in each of its provinces, to the subjection and enslavement of its peoples, along with all means adopted and goals pursued within or near its confines—stand against all natural and civil law, and also against divine law. Consequently, everything done here is unjust, iniquitous, tyrannical, and deserving of all infernal fires." (Las Casas 1552a, avir; my translation). Las Casas was familiar with the different branches of law, especially canon law, which explains the impassioned legalistic jargon of this passage. On Las Casas's knowledge of canon law, see Pennington 1970.

32. Las Casas, *Historia* 1.1.2.2 (1994, 1:358).
33. Las Casas's highly critical accounts of Columbus's role in the introduction of mass slave raids, compulsory tribute, and, ultimately, *repartimientos* or *encomiendas* in the Caribbean, appear in Las Casas, *Historia* 1.4.5.102–105 and 1.5.7.155–161 (1994, 2:918–934 and 2:1136–1165, resp.). On the early history of the *encomienda* in the Caribbean, see Zavala 1973, 13–40.
34. My reading of Columbus's *Diario* coincides with Henige and Zamora 1989, Henige 1991, and Zamora 1993 *only* to the extent that any statement one makes of Columbus's views in the *Diario* must take into account Las Casas's hand in the production of the extant copy of this document. However, in the absence of other recensions of the *Diario*—and given the demonstrated care Las Casas took elsewhere in the handling of his sources—one would be hard-pressed to accept Zamora's contention that Las Casas intentionally altered the contents of the *Diario* (even invented parts of it) to reflect religious views that, Zamora argues, were glaringly absent from Columbus's original plan to navigate west to the Indies (see esp. Zamora 1993, 57).
35. The Latin term *mos*, in its plural form (*mores*), meant "custom" or "set of customs"; that is, the rule or rules of conduct that applied specifically to humans as animals endowed with intellect. The scholastics largely treated the concept of the moral in relation to Aristotle's *Nicomachean Ethics*, *Economics*, and *Politics*. Partly indebted to this commentary tradition, the "natural" and "moral" histories of the Americas such as Las Casas's own *Apologética*—or the Franciscan Fray Bernardino de Sahagún's *Historia de las cosas de la Nueva España* (completed about 1577) and the Jesuit cleric

Joseph de Acosta's *Historia natural y moral de las Indias* (1590)—deployed the concept comparatively, to refer to those customs by which a given nation was to be distinguished from others. See the prologues to Las Casas (1992, 1:285–286) and Sahagún (1979–1980, 1:1r–3r); and, most particularly, Acosta (1590/1998, 9–12, 300–302), which offers an explicit reflection on the connections between natural and moral philosophy in the context of Acosta's ethnography.

36. It is during the early sixteenth century, and primarily in Spain, that scholasticism came to grapple directly with the questions posed by European colonialism, as is argued by Pagden 1982. Las Casas, who claimed that Columbus had chosen his Spanish surname (Colón) in connection with the Latin term *colonus* (*Historia* 1.1.2.2 [1994, 1:359]), fully and self-consciously articulated in *Historia de las Indias* and the *Apologética* the system of knowledge connecting geography and political theory in the scholastic tradition in order to refute the titles on which Crown apologists had justified Spain's occupation of the Americas. Although we tend to associate "colonialism" with the rise of global capitalism during the fifteenth and sixteenth centuries (see, for instance, Abernethy 2000, 3–63), the preoccupation with extra-territorial rule or occupation was very present in medieval political thought and practice. See, for instance, Phillips's treatment of European expansionism between the eleventh and fifteenth centuries (1998). See also Muldoon 1999 and Pagden 1995, both of whom emphasize the continuities between medieval and modern theorizations of empire. Medieval geography's connections with religious and political expansionism are fruitfully explored in recent essay collections, such as Tomasch and Gilles 1998 and Cohen 2000.
37. See Glacken's classical treatment of nature/culture concepts in the West, although the author tends to draw a distinction between climatic and astrological explanations of polity which the early authors presently considered do not (1990, esp. 254–287 and 429–460).
38. The seed for this model was St. Augustine's account in *De civitate Dei contra paganos* of a single humanity's gradual dispersion following the Great Flood and Babel's destruction. See *City of God* 16.1–11 (1957–1972). On the Noachid tradition in the Middle Ages, see Friedman 1981, 87–107 *passim*. The classic account of this tradition for the sixteenth and seventeenth centuries, particularly as it was brought to bear on European ethnography in the Americas, is Hodgen 1964, 207–294. See also Allen 1963, 113–137, whose work refers to the seventeenth century. A most illuminating analysis of the extension of biblical genealogies to the Americas as a part of the machinery of colonialism can be found most recently in Gliozzi 2000.
39. Parel 1992 offers an instructive case study of this cosmological correlation (26–44).
40. Pliny, *Natural History* 2.80 (1938–1963). On the circulation of Pliny's work in the medieval and early modern periods, see Healy 1999, 380–392. As mentioned above, Columbus himself owned and annotated a copy of Pliny's work (Rosa y López 1891, 15–16). For a description of this copy, see Contreras 1992, 118–120.

41. Pliny, *Natural History* 2.80: "For it is beyond question that the Ethiopians are burnt by the heat of the heavenly body near them, and are born with a scorched appearance, with curly beard and hair, and that in the opposite region of the world the races have white frosty skins, with yellow hair that hangs straight; while the latter are fierce owing to the rigidity of their climate but the former wise because of the mobility of theirs; and their legs themselves prove that with the former the juice is called away into the upper portions of the body by the nature of heat, while with the latter it is driven down to the lower parts by falling moisture; in the latter country dangerous wild beasts are found, in the former a great variety of animals and especially of birds; but in both regions men's stature is high, owing in the former to the pressure of the fires and in the latter to the nourishing effect of the damp; whereas in the middle of the earth, owing to a healthy blending of both elements, there are tracts that are fertile for all sorts of produce, and men are of medium bodily stature, with a marked blending even in the matter of complexion; customs are gentle, senses clear, intellects fertile and able to grasp the whole of nature; and they also have governments which the outer races never have possessed, any more than they have ever been subject to the central races, being quite detached and solitary on account of the savagery of the nature that broods over those regions."
42. Aristotle, *Politics* 7.7.1327b24–34 (1995j): "Those who live in a cold climate and in Europe are full of spirit, but wanting in intelligence and skill; and therefore they retain comparative freedom, but have no political organization, and are incapable of ruling over others. Whereas the natives of Asia are intelligent and inventive, but they are wanting in spirit, and therefore they are always in a state of subjection and slavery. But the Hellenic race, which is situated between them, is likewise intermediate in character, being high-spirited and also intelligent. Hence it continues free, and is the best-governed of any nation, and, if it could be formed into one state, would be able to rule the world."
43. Pagden 1995, 11–28 and 98. An indispensable study of the manner in which Greeks, Romans, and Christians constructed a Eurocentric perspective of the globe can be found in Cosgrove 2001, 29–78.
44. Vitruvius, *On Architecture* 6.1.9–11 (1931–1934).
45. Albertus Magnus, *De natura loci* 2.4 (1980b, 27, lines 70–83). For relevant treatments of this tripartite geography see Tooley 1953, who focuses on the case of Jean Bodin; Friedman 1981, 51–52; Floyd-Wilson 2003, who offers a lucid discussion of its sources and circulation in the Renaissance; and more recently, Isaac 2004, 56–74 and 82–109, who provides a useful account of the classical, Hellenistic, and Roman authors who espoused these or similar views. This tripartite geography enjoyed such wide circulation in Christian Europe that in some works it acquired parodic overtones. Take, for instance, Peter Heylyn's late *Cosmographie* (1657). Heylyn's version imported a popular

translation of Guillaume de Salluste du Bartas's *La sepmaine* (1578), a didactic poem inspired by Moses' account of the Creation:

> O see how full of wonders strange is Nature,
> Sith in each Climate, not alone in stature,
> Strength, colour, hair; but that men differ do
> Both in their humour, and their manners too.
> The Northern man is fair, the Southern foul;
> That's white, this black, that smiles, and / this doth scowl;
> Th' one's blithe and frolick, th' other dull / and froward;
> Th' one's full of courage, th' other a / fearfull coward, &c.

(Heylyn 1657, 17)

46. For my account of this hermeneutic tradition, I am fully indebted to Goldenberg's recent erudite study (2003, esp. 168–177). For another useful discussion of the interface between the curse of Ham and medieval geography, see Friedman 1981, esp. 87–107. An illuminating analysis of the colonialist argument that rendered Amerindians as descendants of Ham can be found in Gliozzi 2000, 101–129.
47. Augustine himself believed, contrary to the pagans, that there was no such thing as natural slavery, but rather that God had, by way of Noah's curse on Ham's progeny, instituted slavery as one of sin's wages. See *City of God* 19.15. All English quotes from the Bible are taken from the Douay-Rheims Version (*Holy Bible* 1971). I have also consulted the Latin Vulgate (*Biblia sacra* 1969).
48. Goldenberg 2003, 131–138.
49. Ibid., 141–177.
50. Ibid., 141–156. On Philo's interpretation for the name Ham, see *Questions and Answers on Genesis, II* 65 (1993, 836).
51. Goldenberg 2003, 47–51. See Philo's *Questions and Answers on Genesis, II* 82 (1993, 840).
52. Goldenberg 2003, 46–47. See Philo's *Allegorical Interpretation, I* 68 (1993, 32).
53. Goldenberg cites this as the first recorded instance in which the curse of Ham was invoked in a Christian West that had just rediscovered "black" Africans, in this instance to justify the Portuguese slave trade (2003, 175). Also, see Sweet's concise account of the development of Iberian attitudes toward sub-Saharan Africans (1997, 159).
54. See Zurara, *Crónica dos feitos notáveis* 12–16 (1978–1981, 1:61–80). See also Las Casas, *Historia* 1.2.2.24 (1994, 1:468); and Las Casas's main Portuguese source, the first "decade" of *Ásia* 1.6 (1552/1932, 25–29), by Crown historian João de Barros. For a general account of the justification

of the slave trade in Portugal, see Saunders 1982, 35–86. Of related interest is Fernández-Armesto 1987, 223–245, which compares European perceptions of blacks, Canarians, and Amerindians.

55. Zurara, *Crónica dos feitos notáveis* 16 (1978–1981, 1:77). All translations from this work are my own. Zurara uses "Caym" (Cain) instead of "Cham" (Ham), a mistake that refers us to what was by then the common practice of associating Ham with the progeny of Cain. See Goldenberg 2003, 178–182, and Friedman 1981, 87–107.
56. Scholastic writers like Albertus and d'Ailly attributed the "theory of the five zones" to Pythagoras (6th century BCE), and to Homer before him. It is the geographer Strabo, our primary source on earlier Greek cartographic developments, who reports that the Stoic Posidonius (about 135–51/50 BCE) ascribed this theory to Parmenides (Strabo, *Geography* 2.2.2 [1917–1932]; for Strabo's crucial exposition of this theory, see *Geography* 2.2.2–2.3.3). Today the theory of the five zones is traced to Parmenides, though some doubt remains as to its origins. See Aujac 1987a, 145 and note 83.
57. Woodward 1987, 299–300. For Macrobius's treatment of this theory, see *Commentary on the Dream of Scipio* 2.5–9 (1990, 200–216). On Macrobius's role in the transmission of Neoplatonism to the Latin West, see Gersh 1986, 2:493–595.
58. This idea is traced to Homer's description of Achilles' shield in the *Iliad* 18.478–608 (1990, 483–487): "And he [Hephaestus] forged the Ocean River's mighty power girdling / round the outmost rim of the welded indestructible shield" (*Iliad* 18.708–709 [1990, 487]). See Aujac 1987a, 131. The most useful early source on this and other aspects of Homeric geography is Strabo, *Geography,* esp. 1.1.3–10.
59. On Eudoxus, see Aujac 1987a, 140; on Eratosthenes, see Aujac 1987c, 155–156; and on Crates, see Aujac 1987b, 162–163.
60. Ailly and Gerson 1480–1483/1990, 11v–12r.
61. Woodward 1987, 353–354. D'Ailly's *mappamundi* combines the division of the globe into five zones with the further division of the known inhabited world in the northern quadrant into seven *climata*. This division dates back to the Hellenistic period (4th to 3rd centuries BCE), and it is implicitly assumed in Ptolemy's treatment of parallels in the *Almagest* (Toomer, introduction to Ptolemy 1998, 1–26, esp. 19; Dilke 1987, 182–183; Ptolemy, *Almagest* 2.6 and 2.12 [1998]). Ptolemy exercised direct influence on the Arab iconography of the seven *climata,* which, significantly, would locate the administrative center of Islam in the central fourth clime (Karamustafa 1992, 76–80). On the characteristics and dating of extant Arab versions of the seven *climata,* see Tibbetts 1992, 146–148.
62. For the representation of Ethiopians during the Greco-Roman period, the classical source is Snowden 1970. See also Romm 1992, 49–60. On the tendency to equate Ethiopians and Indians in Greek and Latin geography, see McCrindle 1926, 1–4; André 1949; Dihle 1962; Friedman 1981, 8;

and Schneider 1997. Two useful sources on ancient and medieval Indography are Wittkower 1942 and Gil 1995.

63. See Homer, *Odyssey* 1.23–24 (1996, 78). This claim is made by Strabo in his critique of Posidonius's interpretation of these Homeric verses (*Geography* 2.3.7–8).
64. Herodotus, *History* 4.44 (1987).
65. Ibid., 3.101.
66. See Strabo, *Geography* 15.1.13 and 15.1.24–26.
67. See Pliny, *Natural History* 6.22: "In the regions south of the Ganges the tribes are browned by the heat of the sun to the extent of being coloured, though not as yet burnt black like the Ethiopians; the nearer they get to the Indus the more colour they display." For Pliny's source, see Mela, *Description of the World* 3.67 (1998). For the Latin version, see Mela 1971, 58.
68. See Arrian, *Anabasis of Alexander* 5.4.4 and *Indica* 6.9 (1973–1983).
69. For Ptolemy's enclosure of the Indian Ocean, see *Cosmographia* 7 (1478, unfoliated, col. 236). For all citations from this edition, I have consulted the original at the John Carter Brown Library, Providence, Rhode Island.
70. See Ptolemy, *Cosmographia* 7 (1478, unfoliated, col. 233).
71. Isidore, *Etimologías* 7.6.17 (1983). All translations from this work are my own.
72. Ibid., 9.2.128.
73. Ailly and Gerson 1480–1483/1990, 17r.
74. See postil 58 in Ailly and Gerson 1480–1483/1990, 17r.
75. See chapter 3 for a consideration of the terms "India" and "Indies" and chapter 7 for a discussion of Columbus's expectation of finding "black" peoples in the Caribbean basin.
76. Pliny, *Natural History* 2.80.189: "We must deal next with the results connected with these heavenly causes." The theory of the five zones precedes this geopolitical division (*Natural History* 2.68.172 ff.).
77. On this point, d'Ailly is following Māshā'allāh's discussion of the division of heavens and earth according to the temperate and the intemperate. See chaps. 3 and 31 of Messahallah 1549 (Biir–v and Diiir–v, resp.).
78. Ailly and Gerson 1480–1483/1990, 16r–v. D'Ailly's partition also appears in *Tractatus eiusdem de concordia discordantium astronomorum*, a treatise included in the Louvain edition of d'Ailly's and Gerson's works. Overlooked by Columbus scholars, this other treatise is of great importance for understanding not only Columbus's (and his brother Bartholomew's) geopolitics, but the workings of the knowledge system behind this geopolitics. See Ailly and Gerson 1480–1483/1990, 151r–151v. For Aristotle's version of this geopolitical model, see note 42 above.

79. On this subject, we can be thankful to Pagden's related studies on the concepts of "natural slavery" and "empire" in sixteenth-century Spain. See Pagden 1982, 27–118; 1995, 29–102. See also Hanke's inaugural work on this subject (1959).

80. See Ailly and Gerson 1480–1483/1990, 16r. The geopolitical model in Ptolemy's *Tetrabiblos* 2.2 (1980) reads thus:

> The demarcation of national characteristics is established in part by entire parallels and angles, through their position relative to the ecliptic and the sun. For while the region which we inhabit is in one of the northern quarters, the people who live under the more southern parallels, that is, those from the equator to the summer tropic [i.e., Tropic of Capricorn], since they have the sun over their heads and are burned by it, have black skins and thick, woolly hair, are contracted in form and shrunken in stature, are sanguine of nature, and in habits are for the most part savage [Gr. *agrioi;* Lat. *siluestres*] because their homes are continually oppressed by heat; we call them by the general name Ethiopians. Not only do we see them in this condition, but we likewise observe that their climate and the animals and plants of their region plainly give evidence of this baking by the sun.
>
> Those who live under the more northern parallels, those, I mean, who have the Bears over their heads, since they are far removed from the zodiac and the heat of the sun, are therefore cooled; but because they have a richer share of moisture, which is most nourishing and is not there exhausted by heat, they are white in complexion, straight-haired, tall and well-nourished, and somewhat cold by nature; these too are savage in their habits because their dwelling-places are continually cold. The wintry character of their climate, the size of their plants, and the wildness of their animals are in accord with these qualities. We call these men, too, by a general name, Scythians.
>
> The inhabitants of the region between the summer tropic and the Bears, however, since the sun is neither directly over their heads nor far distant at its noon-day transits, share in the equable temperature of the air, which varies, to be sure, but has no violent changes from heat to cold. They are therefore medium in colouring, of moderate stature, in nature equable, live close together, and are civilized in their habits. The southernmost of them are in general more shrewd and inventive, and better versed in the knowledge of things divine because their zenith is close to the zodiac and to the planets revolving about it.

For Haly's commentary to Ptolemy's model, see Ptolemy's *Liber quadripartiti Ptholemei,* 1493, 31r.

81. Pliny, *Natural History* 7.2.21.

82. Ibid., 7.2.32.

83. Ptolemy 1493, 31r.
84. Averroës 1562/1962, 438v H–I.
85. Ibid., 440v G–H.
86. See Ailly and Gerson 1480–1483/1990, 13r–v. D'Ailly mentions Aristotle; his commentator Averroës; Seneca (1st century CE); Pliny the Elder; and the apocryphal *4 Esdras* (*Fourth Ezra*, 2nd century BCE). See also Columbus's postils to Ailly and Gerson (23b–g), which cite other authors, including Marinos of Tyre (about 100 CE), known only through Ptolemy's *Geography*. It was from this chapter that the Fernandine *Historie* partly culled a list of authors who would have armed Columbus with the arguments for an oceanic crossing. See F. Columbus, *Historie* 7 (1571/1992, 14r–15v).
87. On this episode in Columbus's life, see Morison 1942, 52–55; Ballesteros Beretta 1945, 1:362–373; Taviani 1985a, 110–120 and 367–374; and Enseñat de Villalonga 1999, 219–228. On the founding of São Jorge da Mina, see Hair 1994. As Gil notes (1992a, 43–51), Columbus's experience in Guinea served as an important reference point for his own descriptions of the Bahamas and Caribbean.
88. The standard definition for "Guinea" provided by the *Encyclopaedia Britannica* 2007 preserves even today the connection between latitude and the complexion of sub-Saharan peoples: "The forest and coastal areas of western Africa between the tropic of Cancer and the equator. Derived from the Berber word *aguinaw*, or *gnawa*, meaning 'black man,' . . . the term was first adopted by the Portuguese and, in forms such as Guinuia, Ginya, Gheneoa, and Ghinea, appears on European maps from the 14th century onward." See *Encyclopaedia Britannica Online, http://search.eb.com/eb/article-9038432*.
89. Pérez de Tudela y Bueso et al. 1994, 1:254–255.
90. F. Columbus, *Historie* 4 (1571/1992, 7v–9v). All translations from this work are my own, in consultation with Ginevra Crosignani and Kristine Haugen.
91. The actual latitude of São Jorge da Mina is 5° 5′ 25″ N (Ballesteros Beretta 1945, 1:372).
92. Postils 16a and b to Ailly and Gerson 1480–1483/1990, 12r. Significantly, these annotations are set apart from most other annotations in *Ymago mundi* by the drawing of a double-frame around them.
93. Postil 234 to Ailly and Gerson 1480–1483/1990, 25r–25v. This postil is also one of the few in *Ymago mundi* singled out by means of a double-frame around it.
94. For explicit references to the inhabitability of the tropics or to places within the tropics, see the following postils in d'Ailly and Gerson's *Tractatus* (1480–1483/1990): **16a (12r)**; **16b (12r);** 18 (12r); **19 (12r);** *23b (13r);* 33 (15r); 34 (15r); *44 (15v);* 73 (18r); 75 (18r); 79 (18r); 234 (25r); 266 (27r); 267 (27r); 320 (29r); 322 (29r); 482 (41v); 483 (41v); 484 (41v); 485 (41v); 489 (42r); 490 (42r); 660 (73v)?; *663 (75v);* 670 (78r); 673 (78v); 691 (89v)?. See also Aeneas Sylvius Piccolomini's *Historia rerum ubique gestarum* (1477/1991): 2 (2r)?; **4 (2r);** 6 (2r)?; 20 (3r)?; **22 (3v); 23 (3v);** 24 (3v); **25 (3v); 26**

(3v); 27 (3v); *29 (4r);* 36 (4v); 860 (unnumbered folio [?110v]); and Marco Polo's *De consuetudinibus et condicionibus orientalium regionum* (1485/1986): *278 (60r); 281 (61r); 321 (67r); 322 (67r)*. For the authorship of the postils, I am following Contreras (1992, 157–170). Italicized postils in the preceding list were originally identified by Don Simón de la Rosa y López as Columbus's. Those in plain font were attributed by him to both Columbus and his brother Bartholomew. Postils in boldface have been added by Contreras to those already identified by Rosa y López as only Columbus's. Postils with question marks are of unknown authorship. Many more postils in these works implicitly refer to habitation in the tropics, especially in Marco Polo, whose account of India was interpreted by cartographers like Behaim as spanning the entire breadth of the torrid zone.

95. On Castile's recognition of Portugal's monopoly beyond the Canaries, see my discussion of the Treaty of Alcáçovas below, and chapter 5. Significantly, the Canary Islands first appears as a latitudinal reference point in Columbus's description of the skin "complexion" of the inhabitants of San Salvador, which he later compared to that of the Canarians. See entry for 13 October 1492 in Pérez de Tudela y Bueso et al. 1994, 1:123 and my discussion of Columbus's *Diario* in chapter 7. Of course, the Canaries had been a target of the Mediterranean slave trade and of colonial incursion following their rediscovery in the opening years of the fourteenth century (Verlinden 1955, 546–567). On the history of Christian presence in the Canaries, see Pérez-Embid's key study on the rivalry between Spain and Portugal for control of the Atlantic (1948, 58–220); Rumeu de Armas 1996, 61–168; and Fernández-Armesto 1987, 151–168.
96. For a discussion of the Canaries and Bojador as the entrance to the tropics, see chapters 2, 5, and 7.
97. Las Casas, *Historia* 1.2.1.17 (1994, 3:429–493). Rich historical corroboration for this connection can be found, for example, in Russell-Wood 1995, which argues that Spain's actions in the Americas were the corollary to a wide range of beliefs and practices patent for many decades in Portugal's slave trade along western Africa. Las Casas's principal (and despised) sources on this "prelude" were the already mentioned chronicler of Henry the Navigator, Gomes Eanes de Zurara, author of *Crónica dos feitos notáveis* (1978–1981); and Crown historian João de Barros, author of *Ásia* (1552/1932). Las Casas's grim epithet for Spain's actions in the Americas was widely disseminated through his *Brevissima relaçion dela destruyçion delas yndias* (1552), an inflammatory treatise he printed without license, in light of Charles V's wavering commitment to the terms of the so-called New Laws (1542), which had abolished Indian slavery and severely stunted the future of the hereditary *encomienda* system (Las Casas 1552b).
98. See Fernández de Enciso 1519, aiiiiv; Cortés y Albacar 1551/1998, xxv–xxiir; García de Palacio 1587/1998, 11v; and Nájera 1628/1998, 4v.
99. Postil 49 to Ailly and Gerson 1480–1483/1990, 16r.

100. Postil 866 to ibid., 151v.

101. Postil 870 to ibid., 152r. On the basis of Simón de la Rosa y López's original examination of the postils in Columbus's library, Contreras 1992, 167, states that postils 866–869 on fol. 151v of *Tractatus eiusdem de concordia discordantium astronomorum* are equally attributable to Columbus and to his brother Bartholomew, while the postil that completes this set on fol. 152r (No. 870) is Columbus's. Given the thematic complementarity of the postils in these folios and their relative isolation from other postils, it seems arbitrary to attribute some to any of the two brothers and the last one to Columbus. One or the other brother would have written them. However, I assume that these are Columbus's postils, because they express the exact same paradigm as postil 49 in d'Ailly's *Ymago mundi*, which is unequivocally attributed to Columbus, and because they are absolutely consistent with the manner in which the Discoverer came to conceive of the psychological traits of Bahamian and Caribbean peoples. In any case, Bartholomew was Columbus's "right hand," and there is no reason to believe that the views expressed by postils 866–870 were not shared by the Columbus brothers. Even if this particular set of postils had been written by Bartholomew, we must think of them as consistent with Columbus's thought.

102. See postil 48 to Ailly and Gerson 1480–1483/1990, 16r.

103. Pérez de Tudela y Bueso et al. 1994, 1:123.

104. Ibid., 1:142.

105. Falero 1535/1998, ciiiir; all translations from this work are my own.

106. Ibid., ciiiir–v.

107. For an informative discussion of the crusading mindset in Spain until the late sixteenth century, see Housley 1992, 267–321; an excellent survey of relevant scholarship appears on pp. 483–488. Of related interest are Phelan 1970, 5–28, and Graziano 1999, 15–56, considering the issue of Christian eschatology in the context of Spain's conquest and colonization of the Americas.

108. Fernández de Oviedo y Valdés, *La historia natural y moral de las Indias* 3.6 (1535, xxviir).

109. Tornamira 1585/1998, 2–3; all translations from this work are mine.

110. The explicit connection between the practice of geography and the acquisition of empire was a commonplace in the geographical works of the period. See, for instance, Fernández de Enciso 1519, aiir–v; Cortés y Albacar 1551/1998, iiir–v and viv–viir); and García de Palacio 1587/1998, 5r. On the study of this question in recent years, see Godlewska and Smith 1994.

111. Syria 1602/1998, 18–19; all translations from this work are my own. Syria's source is Strabo, *Geography* 2.5.26. Praise for the cultural achievements of a temperate Europe that had—throughout history—reduced other peoples to civility was not unique to the geographies produced in Spanish. Works imported into Spain from elsewhere in Europe made similar claims for the superiority of

the inhabitants of the temperate zone. Notable examples are Peter Apianus's widely published and translated *Cosmographicus liber* (about 1524), which, in an expanded version by Gemma Frisius, was rendered by Gregorio Bontio as *"Libro de la Cosmographia" de Pedro Apiano* (1548, 32); and Johann Boemus's equally popular *Omnium gentium mores* (1520), which was rendered in expanded form by Francisco Thamara as *El libro de las costumbres de todas las gentes del mundo, y de las Indias* (1556, 11r–12r).

112. This point is brilliantly demonstrated in Carroll's seminal paper on the physics of Platonic psychology (1975, 18–22a). See also Lang 1992, 111–112.

113. In his study of the theory of natural slavery among the sixteenth-century schoolmen who discussed the titles Spain might have to its colonies, Pagden rightly observes that this Aristotelian doctrine "was seen as part of a wide network of beliefs, not only about the structure and function of the human mind, but also about the organising principles of the universe itself, of which man is only one small part" (1982, 49).

114. For explicit treatments of the theory of celestial influence in Spanish geographies, see Falero 1535/1998, aviv; Fernández de Enciso 1519, aiiiiv–avr; Chaves 1548, xxxv–xxxiiir; cccviiiv–xlv; lxxvr–lxxxvir; clxvir–clxviiv; Medina 1538/1972, 6r–v; Zamorano 1581/1998, 1v; Tornamira 1585/1998, 12–17 and 49; Syria 1602/1998, 13; and Nájera 1628/1998, A2. A memorable exposition of the theory of celestial influence appears in Velázquez Minaya 1618, 68v: "The region of the elements . . . [is] . . . without a doubt inferior to the celestial region, because the elemental region is generable, corruptible, changeable, inconstant, and of itself timorous. The celestial region is incorruptible, firm, eternal, beautiful, resplendent. The elementary region is [its] slave and subject. The celestial region is the mistress and queen, and, as such, it sits on a nobler throne; it reigns and rules over the elemental region, and it gives it nourishment and sustenance" (my translation). For indispensable assessments of astrological thought in medieval philosophy, see Thorndike 1955 and Lemay 1987.

115. The revival of interest in "nature" in the Latin West during the twelfth and thirteenth centuries had brought new attention to the status of humans as complex creatures at the intersection of metaphysics and physics, endowed with both an intelligent soul and a physical body (Chenu 1997, 4–24). The geographers of the Spanish Empire followed a long line of scholastic writers who condemned astrological practices that—like the casting of horoscopes—contradicted the doctrine of "free will." They were careful to state that celestial bodies influenced human behavior insofar as humans freely abandoned reason in pursuit of satisfying the impulses of their physical bodies. See Falero 1535/1998, aiiv–aiiir; biir); Tornamira 1585/1998, Aiiir–v, 62; and García de Palacio 1587/1998, 11r.

116. Albertus was one of the defining voices of high scholasticism (1250–1350), which saw to the establishment of Aristotle's *libri naturales* and those works by his Greco-Latin and Arabic commentators as the core of natural philosophy in the Latin West (Wallace 1978).
117. North 1986.
118. Lucretius, *De rerum natura* 5.91–96 (1924): "observe first of all sea and earth and sky; this threefold nature, these three masses . . . these three forms so different, these three textures so interwoven, one day shall consign to destruction; the mighty and complex system of the world [*machina mundi*], upheld through many years, shall crash into ruins."
119. Chalcidius 1872, 32c–d. Rich treatments of this term can be found in Delp 1995, especially 248–252; and Mittelstrass 1995. This concept is mentioned by a number of other contemporary scholars, including White 1962, 125n5; and Nelson 1981, 160–198. The classic treatment on the subject of mechanistic concepts of the cosmos in the Western scientific tradition is Dijksterhuis 1959, although the author maintains, to the detriment of the qualitative models preceding the Scientific Revolution, that only the development of a mathematical model of nature that offered a systematic view of the workings of the cosmos could be properly called mechanistic (1986, 495–99). On Chalcidius's contribution to Neoplatonism in the Latin West, see Gersh 1986, 2:421–492.
120. Chantraine 1968, 699.
121. White 1962, 103–129; Chenu 1997, 1–48; and Gimpel 1988, esp. 147–170. As Grant 1996, 21, explains regarding the emergence of this among Aristotelians, "The idea that God was the direct and immediate cause of everything yielded to an interpretation of the world that assumed that natural objects were capable of acting upon each other directly. God had conferred on nature the power and ability to cause things. He had made of it a self-operating entity. Nature, or the cosmos, was thus objectified and conceived as a harmonious, lawful, well-ordered, self-sufficient whole, which could be investigated by the human intellect. The world was transformed conceptually from an unpredictable, fortuitous entitiy to a smoothly operating machine, *machina*, as it was frequently called in the twelfth century."
122. Alverny and Hudry 1974, 219.
123. Delp 1995, 26; my translation.
124. Pseudo-Aristotle, *On the Universe* 6.398b7–16 (1995a). Greek sources use the terms *mēchanopoioi, mēchanotechnai,* and *megalotechnoi* for machine operators or technicians (Furley 1955, 390–391, notes a and 1). For the analogies contained in the anonymous thirteenth-century translation of *De mundo* and in Nicholas of Sicily's translation, see Lorimer 1924, 78 and 79, resp.
125. Thorndike 1949, 78–79.
126. The illustration used by Sacrobosco for this crucial property of the world-machine was the miracle of a solar eclipse during a full moon on the day of the Crucifixion. Of this miraculous event,

Dionysius the Areopagite (probably Pseudo-Dionysius) is quoted as having written thus: "Either the god of nature suffers, or the world-machine is dissolved" (Thorndike 1949, 117).

127. Ailly and Gerson 1480–1483/1990, 158r.

128. See Falero 1535/1998, aiiiir; Chaves 1548, iiii; Pérez de Moya 1567, 317; Zamorano 1581/1998, iv; Tornamira 1585/1998, 23; Velázquez Minaya 1618, 3r; Ferrer Maldonado 1626, 49; and Syria 1602/1998, 4. Other Spanish geographies in which the term is used are Cortés y Albacar 1551/1998, xr; Escalante de Mendoza 1998, 80v and 83r [unpublished manuscript, 1575]; and García de Céspedes 1606/1998, 2r.

129. Syria 1602/1998, 4.

130. Las Casas, prologue to *Historia* (1994, 1:346).

131. For a thorough analysis of the process of drafting *Historia de las Indias,* see Pérez Fernández 1994, 109–186.

132. On the extraordinary scope of Las Casas's documentation, see Pérez Fernández 1994, 185–269.

133. The 1552 prologue to *Historia de las Indias* announces the treatment of "the qualities, nature, and properties of these regions, kingdoms, and lands, as well as what they contain, along with the customs, religion, rites, ceremonies and condition of their indigenous peoples, comparing them with those of many other nations, and touching upon the pertinent matters in cosmography and geography" (Las Casas 1994, 1:349). But in 1555, Las Casas would extract chapters 68–165 from *Historia de las Indias* to form chapters 1–120 of the *Apologética*. In a marginal note to chapter 67 of *Historia de las Indias,* which concludes his account of Columbus's exploration of the Caribbean, Las Casas explains that he has decided to compose a new volume with these chapters, due to the complexity and extension of their subject matter (Las Casas, *Historia* 1.3.3.68 [1994, 3:670 and note 57]). On Las Casas's decision to write the *Apologética* as a companion volume to *Historia de las Indias,* see Pérez Fernández 1994, 165–170 and 182–183.

134. Las Casas 1992, 1:283; emphasis added; all translations from the *Apologética* are my own.

135. On the dating of *De unico vocationis modo,* see Pérez Fernández 1981, 200–206.

136. Pérez Fernández 1994, 57. For Las Casas's reference to chapters 1–4 in *De unico vocationis modo,* see Las Casas 1990, 13. For the contents of these four chapters, see García del Moral 1990, lvi–lvii.

137. Las Casas was granted access to these archives by Doña María de Toledo, the wife of Columbus's other son and legitimate heir Don Diego (Pérez Fernández 1994, 213–218).

138. Las Casas would have begun using the summary copy of Columbus's *Diario* on the island of Hispaniola as early as 1527 (Pérez Fernández 1994, 218–219).

139. As Pérez Fernández 1994, 206–207, has observed, the passages in the summary copy of the *Diario* that tend to cite Columbus word by word are those concerning the Christian significance of the

discovery, the natural conditions of the Bahamas and Caribbean basin, and the behavior of the Indians in their interactions with Columbus's crew.

140. Pérez Fernández 1994, 218–219.

141. On this final stage in the drafting of *Historia de las Indias* (1552–1561), see Pérez Fernández 1994, 111–184, esp. 111–112.

142. Pérez Fernández 1994, 145 and 136–140.

143. On the significance of Las Casas's activities on this visit to Seville, see Pérez Fernández 1984, 831–839. For a useful account of the contents and fate of Ferdinand's library, see Rumeu de Armas 1973, 4–20.

144. Ferdinand purchased a copy of the *princeps* edition of Albertus's *De natura loci* in 1521. It is registered as No. 1718 in F. Columbus 1963a, 1963b, and 1963c, but this copy has been lost along with thousands of other volumes once part of the Biblioteca Colombina. At least 43 manuscripts of *De natura loci,* including Albertus's holograph, survive today in libraries across Europe (Fauser 1982, 38–45). This work was printed in Vienna (1514) and Strassburg (1515). It also appeared with other *opuscula* by Albertus in *Tabula tractatuum paruorum naturalium* (Venice, 1517).

145. Anthony Grafton has kindly suggested that Las Casas's penchant for out-documenting his sources may in part obey the heated controversy in learned circles caused by a predecessor of Las Casas in the Dominican order, the erudite forger Annius of Viterbo. In his influential *Commentaries on Various Authors Discussing Antiquities* (Rome, 1498), Annius had endeavored to fill out the Bible's "lacunae" and to redefine pagan history and mythology as outcrops of Biblical antiquity and historiography (Grafton 1991). Annius was very important for the historiography of the sixteenth century, for he "created not only texts but rules for the choice of texts as well, general and plausible ones. These rules in turn formed the basis of all later systematic reflection on the choice and evaluation of sources" (Grafton 1991, 80). Among Annius's most controversial moves was the inclusion in his *Commentaries* of a "complete" version of Berosus's *Antiquities* (3rd century BCE), a collection of Babyloniaca that had survived only in fragments known largely through Flavius Josephus's first-century *Jewish Antiquities* (Grafton 1991, 80–82). Annius's imaginative forgery had evidently tainted, in the eyes of many of Las Casas's contemporaries, even those supposedly "authentic" fragments of Berosus's Babyloniaca that had survived in the works of Josephus and other ancient writers. And among Annius's numerous critics was another member of the Dominican order, the distinguished humanist Juan Luis Vives, who in his own commentary on Saint Augustine's *City of God* had fiercely set out to discredit Annius's version of Berosus (Grafton 1991, 93). Las Casas, like other historians of his generation, relied on a good number of the ancient sources included in Annius's *Commentaries.* And, in the *Apologética* 107–108 (1992, 2:813–824)

we find Las Casas in the somewhat awkward position of defending Annius's version of Berosus. Sixteenth- and seventeenth-century ethnographers (this includes cosmographers and chroniclers of the Indies) tended to believe that Amerindians were part of Noah's progeny dispersed after the Flood and the failed building of the Tower of Babel. This genealogy not only argued in favor of the humanity of the Indians (against apologists of empire who deemed them to live like "beasts"), but it also allowed Las Casas and other sympathetic writers to establish parallels between ancient pagans and Amerindians that worked in favor of the latter. In many of their achievements and mistakes, Amerindians were no less laudable and no more culpable than their pagan counterparts, from whose ashes and monuments, after all, Christendom had risen (see Pagden's useful discussion of the *Apologética* [1982, 119–145, esp. 134–135]). Largely following Augustine's cues in *De civitate Dei* 16, writers like Las Casas ultimately conceptualized cultural differences as the result of distortions of one single language spoken—and a single set of customs practiced—by Noah and his sons prior to the dispersals that followed the Flood and the fall of Babel. Removed in space and time from their origins, pagans had been as susceptible, if not in some respects *more* susceptible, than Amerindians, to distorting this primeval language and set of customs. The various cultural traits to be found from one people to another distantly, or not so distantly, echoed everything from the modes of worship and sacrifice to the sciences and to the arts that Noah had allegedly taught humanity after the Flood. With this in mind, it is not difficult to see why Las Casas would have attempted to defend Annius's Berosus against Vives's commentary on Augustine: Pseudo-Berosus claimed that Janus, the "porter" god who, Romans supposed, had constructed the first temples and instituted the first pagan rites, was really none other than Noah, who, having taught Armenians and other peoples all things divine and human, had proceeded to do the same with the peoples of the Italic peninsula (Las Casas, *Apólogética* 107 [1992, 2:814–815]). The implication for Las Casas's argument was that, just as the cult of Janus among the Romans reflected its origins in Noah's works, so did the modes of worship and sacrifice in the Indies have their roots in Biblical antiquity. To this effect, Las Casas found himself in a predicament that writers of the period probably had difficulty avoiding: he felt he had no choice but to rely on Annius's *Commentaries;* he took what he probably knew was an indefensible position in the debate over the authenticity and authority of the sources this work included. At the same time, he was extremely careful to lay bare the process of proof by which he arrived at his claims. Following a painstaking discussion of sources that directly or indirectly supported Berosus's contention about Janus's true identity, some of which came directly from Annius's *Commentaries,* Las Casas concluded: "From among the modern writers, it would be sufficient here to cite Johannes Annius of Viterbo, who wrote commentaries on those five books of Berosus. In many parts of these books, and in those

about Fabius Pictor, and in Xenophon's *De aequivocis,* and in other ancient treatises collected and commented by him, [Johannes Annius] asserts that the said book [*Antiquities*] is by Berosus, and that Noah came to be called Janus, and his wife Esta and Vesta, along with all the other things which we have mentioned above. And, truly, on account of all the things that Johannes Annius mentions in the said places, aside from the fact that he is a master and doctor of theology, he should not be held in any less esteem on the subject of ancient world histories than the well-read and learned Luis Vives" (Las Casas, *Apologética* 108 [1992, 2:820]). Indeed, the anxiety that Las Casas must have experienced concerning the use of such a deeply influential and controversial work as Annius's *Commentaries* could easily have extended to his use of sources elsewhere in *Historia de las Indias* and *Apologética historia,* especially given that Las Casas was arguing a case in favor of—to cite imperial ideologues like Juan Ginés de Sepúlveda—"barbarians" who "not only lack any culture, but also do not even use or know letters, and do not preserve the monuments of their memory, save for a certain dark and vague memory of some events recorded on certain drawings" (Sepúlveda 1984, 34; all translations from Sepúlveda's *Democrates secundus* are my own, in consultation with the Spanish translation by Angel Losada).

146. Compare F. Columbus, *Historie* 6 (1571/1992, 12v–14r) to Las Casas, *Historia* 1.1.2.5 (1994, 1:368–370); as well as F. Columbus, *Historie* 7 (1571/1992, 14r–15v) to Las Casas, *Historia* 1.1.4.11 (1994, 1:396–398). Whether or not these chapters ought to be attributed to Ferdinand or to an "anonymous biographer," Las Casas appears to have believed that he was following Ferdinand.
147. Las Casas, *Historia* 1.1.4.11 (1994, 1:396).
148. For a list of Las Casas's sources, see Pérez Fernández 1994, 259–269.
149. F. Columbus, *Historie* 5 (1571/1992, 12r).
150. Las Casas, *Historia* 1.1.3.5 (1994, 3:369).
151. For Albertus's arguments regarding this matter, see Albertus Magnus, *De natura loci* 1.6 (1980b, 9–12).
152. Vignaud 1911, 1:60. For someone like Vignaud, who showed an interest in Columbus's southing as a sign of Columbus's secret plan to reach Antilia, Albertus's presence in Las Casas's intellectual biography of Columbus stood to bolster Vignaud's refutation of the traditional thesis about Columbus's destination. On one instance of Las Casas's out-documenting his sources, see Pérez Fernández 1984, 791.
153. Las Casas, *Historia* 1.1.3.6–7 (1994, 1:371–383).
154. See Hanke 1959 and Pagden 1982. I am closely following Pagden's lead in this part of my argument, 27–108.
155. Pagden 1982, 28–29.

156. Ibid., 29.
157. Pérez de Tudela y Bueso et al. 1994, 3:1673–1674.
158. Ibid., 3:1673.
159. Ibid., 3:1673–1674.
160. See chapter 5.
161. For an extremely useful account of this debate, see Muldoon 1979.
162. Pagden 1982, 28–29.
163. On John Mair's role in the development of the "theory of natural slavery" among Crown apologists in Spain, I have consulted Pagden 1982, 38–41. For additional information about Mair's life, thought, and influence, see Beuchot 1976 and Carro 1951, 261–334.
164. For Aristotle's theory of slavery, see *Politics* 1. For his discussion of slaves "by nature," see *Politics* 1.5–6. A succinct explanation of Aristotle's concept of natural slavery appears in Pagden 1982, 41–47.
165. For the Latin original, see Carro 1951, 292n45; my translation, in consultation with Pagden's translation (1982, 38–39).
166. Pagden 1982, 30–37. As Pagden notes, our only source on these momentous protests by the Dominicans is none other than Las Casas, *Historia* 3.1.2.3–6 (1994, 3:1757–1774).
167. Las Casas, *Historia* 3.1.2.4 (1994, 3:1762).
168. Ibid., 3.1.3.5 (1994, 3:1767).
169. See Doc. 96 in *Cedulario cubano* 1929, 427–431; this quote, 431; my translation. In this *cédula real,* Fernando repeatedly alludes to official deliberations that would have taken place before Isabel's death, perhaps as early as 1495 or 1496, and most likely in answer to the first massive slave raids conducted by Columbus in the Indies. As Pagden has noted, "The Castilian Crown had never, in fact, been certain that it had the right to enslave Indians" (1982, 31–33). For Fernando's concern with the proceeds from gold mining in Hispaniola, we need only read a missive that the king had sent to Diego Colón only a month earlier (23 February 1512). Addressing his officials in Hispaniola, Fernando complained: "And in [the message] I write to you alone—my officials, not the Admiral—I say that I greatly marvel at the fact that in this [recently arrived] ship, you should not have sent any gold. And, verily, the more one thinks about it, the more it seems to me that you have erred greatly, considering what I have written to you before, for this was an adequate ship for this purpose. And so that this error be corrected, I say to you that for no reason in the world should there be any gold of mine lying idle over there. On the contrary, it should all come to me as fast as you can manage, even at the risk of loss, as I have commanded you on other occasions" (Doc. 94 in *Cedulario cubano* 1929, 417–424; my translation).

Indeed, in an early letter to a member of their Council, the Bishop of Seville Don Juan de Fonseca (16 April 1495), Fernando and Isabel had ordered him not yet to bill the buyers of the first massive round of Indian slaves just sent by Columbus to the market of Seville, "because we would like to be informed by *letrados,* theologians, and canonists whether, in good conscience, they can be sold as slaves or not. And this cannot be done until we see the letters that the Admiral has written to us in order to know the cause he has for sending them over here as captives" (Pérez de Tudela y Bueso et al. 1994, 2:789–790). For Las Casas's vivid account of the rounding up of the slaves Columbus then sent to Seville, see Las Casas, *Historia* 1.4.1.104 (1994, 2:928–931).

Columbus's "letters" did arrive in court, and they included the famous "Memorial" entrusted to his envoy Antonio Torres in which Columbus proposed an all-out trade in slaves from among a group of belligerent Indians he had identified on his first voyage as Caribes. Columbus justified the proposed trade alleging that the Caribes were anthropophagous, and that abstracting them from their native soil and sending them as slaves over to Europe, would serve to purge them, literally and spiritually, of "that monstrous custom they have of eating men" (*aquella inhumana costunbre que tienen de comer onbres*). See Pérez de Tudela y Bueso et al. 1994, 1:543–545; this quote, 544. Fernando and Isabel approved Columbus's proposal to enslave "man-eating" Caribes, and for decades to come the convenient excuse of delivering humanity from monstrous predators would serve to justify many slave raids on the Indies. Isabel herself, who did not like the idea of enslaving Indians, would confirm the status of Caribes as slaves for the taking in 1503 (Pérez de Tudela y Bueso et al. 1994, 3:1579–1581).

But the round of Indian slaves held in Seville was ordered returned to Hispaniola only a year later (Pagden 1982, 31), no doubt because they were identified as Taínos from Hispaniola, not Caribes. And since the great majority of Indians captured, dispossessed, and forced to pay tribute or to work in *repartimientos* could not be categorized as man-eaters either, the question would remain open as to whether or not they could be subjected to what critics like the Dominicans were beginning to regard as a form of virtual slavery. We should emphasize, against Pagden's view (1982, 33), that the fact that Indians did not bear the "natural" mark of slaves—that is, "blackness"—must have played no little part in complicating the issue of their enslavement. See my discussion of the Indians' skin complexion in chapters 5 and 7.

170. Las Casas, *Historia* 3.1.3.6 (1994, 3:1769–1770).

171. Pagden 1982, 37. Indeed the *real cédula* sent by Fernando to silence the protesting friars was accompanied by copies of Alexander's infamous concessions.

172. For Las Casas's account of the Burgos *junta,* see Las Casas, *Historia* 3.2.1.7–12 (1994, 3:1775–1803).

173. Ibid., 3.2.1.8 (1994, 3:1781–1782).

174. Ibid., 3.2.1.9 (1994, 3:1784). See also Pagden's analysis of Mesa's "opinion" (1982, 47–50).

175. Las Casas, *Historia* 3.2.1.9 (1994, 3:1785; emphasis added).

176. Compare Pagden 1982, 47.

177. For the development of this debate, see Pagden 1982, 50–108.

178. On Sepúlveda, see Pagden 1982, 109–118.

179. On this episode in Las Casas's efforts against Sepúlveda, see Wagner and Parish 1967, 170–182. Extensive documentation of the confrontation between Las Casas and Sepúlveda, including their participation in the Juntas de Valladolid, can be found in Pérez Fernández 1984, 721–807.

180. The contents of the future *Apologética* were announced in Las Casas's Latin *Apologia*, a point-by-point refutation of Crown jurist Juan Ginés de Sepúlveda's own *Apologia pro libro de iustis belli* (1550/1997). See Las Casas 1552/1988, 83. On the *Apologética* in relation to the debates between Las Casas and Sepúlveda, see Pagden 1982, 119–145.

181. See Argument 4 in Sepúlveda (1550/1997, [197]; my translation, in consultation with the translation by Angel Losada). For Thomas Aquinas's argument, see *In libros Politicorum Aristotelis expositio* I.1.i.23 (1951, 23). Sepúlveda's preferred witness to the "barbarism" of the Indians was, not surprisingly, one of the works Las Casas knew and despised most: Fernández de Oviedo's *La historia general y natural de las Indias* 13.6 (1535, xxviir). Sepúlveda's version of the tripartite geography of nations also derived from Thomas Aquinas's *In libros Politicorum Aristotelis expositio* 7.1.5. 968–1127 (1951, 361–364); and from the influential *De regimine principum* 3.4, a "mirror of princes" early on attributed to Aquinas but largely authored by his disciple Ptolemy of Lucca. For Ptolemy of Lucca's reference to hot, cold, and temperate nations, see *On the Government of Rulers* 2.1.5 (1997, 105).

182. On Sepúlveda's attempts to obtain license to publish *Democrates secundus*, and on Las Casas's role in blocking its publication, see Pérez Fernández 1984, 722–729. On the basis of Las Casas's own assertions in *Apologia* (1552/1988, 67), Pagden believes that Las Casas never read Sepúlveda's *Democrates secundus*, only a Spanish translation of the 1550 *Apologia pro libro de iustis belli* published in Rome (1982, 119).

183. Sepúlveda 1984, 1.

184. See for instance Albertus's and d'Ailly's discussions of the five zones: *De natura loci* 1.6 specifically refers to the zones as *plagae sive zonae* (Albertus Magnus 1980b, 9, lines 51–52); and *Ymago mundi* as *plagae seu regiones* (Ailly and Gerson 1480–1483/1990, 12r).

185. Docs. 77 and 91 in Adão da Fonseca and Ruiz Asencio 1995, 125–130 and 137–139, resp.; all translations from this work are my own. A most meticulous analysis of these papal bulls can be found in García-Gallo 1987. See chapter 5.

186. See Doc. 29 in Adão da Fonseca and Ruiz Asencio 1995, 68–92 and 158–167. The clauses regarding Castile's and Portugal's possessions in the Atlantic were added to the treaty dated 4 October 1479,

and the final document was ratified by the Catholic Monarchs on 6 March 1480. See also Doc. 12, dated 6 May 1480, in Pérez de Tudela y Bueso et al. 1994, 1:41–46. The Treaty of Alcáçovas constituted a defining framework in future legal disputes between Castile and Portugal for control of the Atlantic, not to mention in the drafting of the legal documents that preceded the famous Treaty of Tordesillas (7 June 1494), the treaty that would divide the Atlantic between Spain and Portugal along a meridian that was located "three hundred and seventy leagues to the west of the Cape Verde Islands." See Doc. 98 in Adão da Fonseca and Ruiz Asencio 1995, 158–167; my translation. On the Spanish interpretation of the Treaty of Alcáçovas until the signing of the Treaty of Tordesillas, see Castañeda 1973. An indispensable analysis of the effects of the Treaty of Alcáçovas on the documents that led to the Treaty of Tordesillas appears in Adão da Fonseca 1993, 271–294. See also Pérez Embid 1948, 214–220; García-Gallo 1987, 331–350; and Rumeu de Armas 1992, 73–85.

2 Columbus and the Open Geography of the Ancients

1. On the royal council appointed in 1486 to evaluate Columbus's plan, see Ballesteros Beretta 1945, 1:446–455 and 487–493; Manzano Manzano 1964, 65–111; and Taviani 1985a, 172–173 and 441–443. On the royal council's final assembly in Santa Fe, see Ballesteros Beretta 1945, 1:513–515; Manzano Manzano 1964, 251–260; and Taviani 1985a, 196–197.
2. Pérez de Tudela y Bueso et al. 1994, 2:1281–1285; this quote, 1284.
3. Ibid., 1:236.
4. For a succinct account of this disagreement, see O'Gorman 1958/1977, 55–76.
5. F. Columbus, *Historie del S. D. Fernando Colombo* 5 (1571/1992, 12v).
6. Las Casas, *Historia de las Indias* 1.3.1.29 (1994, 1:504).
7. Ibid. See also F. Columbus, *Historie* 12 (1571/1992, 32r–34r).
8. A well-documented survey of Geraldini's activities in the Spanish court can be found in Oliva 1993, 176–185. As Pérez Fernández argues, it seems that it was Charles V and not his grandfather, Fernando of Aragon, who presented Geraldini for the bishopric of Santo Domingo. See note 1 to Las Casas, *Historia* 3.2.1.9 (1994, 3:2524).
9. For Geraldini's account of Columbus, and of the events in the encampment of Santa Fe, see *Itinerarium* 12 and 14 (1631/1995, 185–191 and 202–209, resp.).
10. On the *Itinerarium* and its circulation until 1631, see Oliva 1993, 189–202. On the circumstances that led to its publication, see 206–209.
11. Geraldini, *Itinerarium* 11 (1631/1995, 183), declares that the inhabitants of the lower latitudes were not entirely sound of judgment, lacked a noble soul, did not believe in God, had no knowledge of letters, engaged in no commercial activities, lacked inherited laws, or rights, or institutions,

dissolved marriage at the slightest disagreement, and possessed no government—all this because the land close to the equator was extremely fertile, which meant that its peoples did not have to exercise their minds or their bodies in order to survive. Therefore, equatorial peoples were slow-witted and lazy.

12. Geraldini, *Itinerarium* 14 (1631/1995, 204–205; my translation).

13. Henry Harrisse, one of Columbus's most meticulous biographers in the nineteenth century, duly cautioned that Geraldini's status as a witness of the events that preceded the discovery should be carefully weighed against the fact that the *Itinerarium* itself is not a consistently reliable historical source: "Being an eyewitness and an active participant of the deeds that he recounts, his testimony will have great power, though the book to which he consigns them reveals a certain frivolity of spirit, a lack of critical sense, and such flights of imagination, that one should not approach it except with great care" (1871, 1:368; my translation). Henry Vignaud, who earned a reputation for attempting to discredit every crucial written source on Columbus's life, additionally speculated that the 1631 edition of the *Itinerarium* might present interpolations effected on the lost original to make them appear as Geraldini's own (1911, 2:7–8). This said, even Harrisse (1871, 1:380–381) and Vignaud (1911, 2:57–58) cite Geraldini as an impeccable source on the Santa Fe assembly. While we must not read Geraldini's testimony as "disinterested," we certainly have no credible evidence to believe that this testimony is not his own: Ballesteros Beretta, for instance, momentarily wondered whether the Fernandine *Historie* published by Alfonso Ulloa in 1571 could itself be the source of an adulteration to Geraldini's original testimony of the Santa Fe assembly (1945, 1:514–515). According to Ballesteros Beretta, the anonymous author of this forgery in Italy would have intended to replicate Ferdinand's unsympathetic—and presumably Hispanophobic—portrayal of Columbus's opponents in the royal council. But recent comparison of the extant Latin codices of Geraldini's *Itinerarium* reveals no discrepancies to support Ballesteros Beretta's speculation (Oliva 1993, 202–206). The same can be said of the only codices known to have survived in Pompeo Mongallo da Leonessa's Italian translation, one held by the British Library (MS Harley 3566) and the other by Lisbon's Biblioteca Nacional (Fundo Geral 11169). The codex in Lisbon may be by Mongallo himself, who claimed he had worked from Geraldini's much deteriorated original (Oliva 1993, 190–191).

    Less persuasive is Ballesteros Beretta's explanation for the fact that Geraldini—not Ferdinand or Las Casas—should mention Nicholas of Lyra among the authorities cited by Columbus's opponents in the royal council. Ballesteros Beretta suggests that the Italian author of the forgery in Geraldini's work would have included Nicholas of Lyra because this forger knew that Lyra was "one of Columbus's preferred authors when it came to the interpretation of Sacred Scripture" (1945, 1:514). As an example, Ballesteros Beretta cites Columbus's famous postil 166 in Pierre d'Ailly's *Ymago mundi*, which would most certainly not have been available to an impostor in Italy. The same

is true of the other texts where Columbus cites Lyra: Columbus's *Diario* of the third voyage and his famous compilation of scriptural passages, *Libro de las profecías* (dated 1504). Geraldini's mention of Lyra in fact contradicts Ballesteros Beretta's claim that Geraldini's testimony of the Santa Fe assembly was forged to replicate Ferdinand's derogatory portrayal of Columbus's opponents in the royal council: Lyra unequivocally points to the *learned* nature of the objections raised against Columbus's plan. It is certainly possible for a forgery to be more elaborate than its source. But as Ballesteros Beretta himself admits, his case is built from silence. The historian finds himself in the indefensible position of relying on the testimony of the Santa Fe assembly contained in the *Itinerarium* while simultaneously suggesting that part of this testimony may not be Geraldini's own. See Ballesteros Beretta's use of Geraldini (1945, 1:151, 489–490, and 513). Other authors who have relied on Geraldini's testimony are Morison 1942, 1:133–134; Manzano Manzano 1964, 102, 255, and 257–258, who hails Geraldini as an "exceptional witness" (my translation); and Taviani 1985a, 197 and 485, and 1996, 1:371–377, who considers Geraldini's intervention to have been of great importance if not crucial to the Santa Fe assembly.

It should be noted that Ferdinand could have been aware of Geraldini's role in the Santa Fe assembly, given that Columbus and Geraldini were friends, but we know nothing about Ferdinand's sources to suggest that his own account of the royal council's objections to Columbus's plan is indebted to Geraldini. Since Ferdinand visited Hispaniola in 1509 to return definitively to Europe shortly thereafter, he never saw Geraldini's *Itinerarium* in Hispaniola. Las Casas, for his part, remains unfamiliar with Geraldini's version of the royal council's proceedings. His only source regarding the debate in the royal council appears to have been the Fernandine *Historie*. Las Casas may have met Geraldini, since his stays in Hispaniola between 1521 and 1526 overlapped with Geraldini's tenure as bishop (1519–1524). But if the two did meet, and if Las Casas was aware of Geraldini's participation in the Santa Fe assembly, Geraldini is nowhere mentioned or cited as a source in *Historia de las Indias*. For the time being, Geraldini should continue to be considered an independent source.

14. Randles 1990, 51.
15. See *Holy Bible* 1989; and *Biblia sacra* 1983.
16. For a comprehensive and highly illuminating treatment of this cosmological problem in the West, including writers like Albertus and d'Ailly, see Duhem's "L'équilibre de la terre et des mers" 1 and 2, 1958, 9:16–235. See also Grant 1994, 622–637. For Archimedes' proof of earth and water's concentricity, see his *On Floating Bodies* 1.2 (1912): "The surface of any fluid at rest is the surface of a sphere whose centre is the same as that of the earth."
17. Thorndike 1949, 78.
18. For a discussion of T-O maps, which tend to be seen mostly in copies of Isidore of Seville's *Etymologiae* and *De natura rerum*, see Woodward 1987, 296–297, 301–302, and 343–347.

19. On Herodotus's challenge to Homeric geography, see Aujac 1987a, 136–37; and, particularly, Romm 1992, 32–41, which discusses the connection between Herodotus's inconsistent "empiricism" and his characterization of unknown peripheries as "empty spaces" or *erēmoi*. The relevant passages discussed by Romm are Herodotus, *History* 2.23, 4.8, and 4.36 (1987), where the author dismisses the concept of the Ocean River; and *History* 3.98, 4.17, 4.185, and 5.9, where he variously deploys this concept to describe territories about which there is no reliable information.
20. See Homer, *Iliad* 21.196–197 (1990; 526); and Hesiod, *Theogony*, lines 366–367 (1993).
21. Plato, *Phaedo* 109a–113c (1997c).
22. Seneca, *Natural Questions* 3.15.1 (1971–1972).
23. Pliny, *Natural History* 2.66 (1938–1963).
24. Ibid., 2.66.
25. Colón 1992, 382.
26. Pérez de Tudela y Bueso et al. 1994, 2:1114: "como el amago dela nuez con vna tela gorda que va abraçado en ello."
27. Aristotle, *Meteorologica* 1.13.349b17–19 (1995c).
28. Aristotle, *On Generation and Corruption* 2.2.329b6–330a29 (1995e). A most useful account of the origins and development of this theory can be found in Lloyd 1964.
29. Aristotle, *On Generation and Corruption* 2.3.330a30–331a6.
30. Ibid., 2.4.331a7–333a15.
31. Ibid., 2.4.331a13–20.
32. Ibid., 2.10, esp. 2.10.336a32–336b1–15.
33. Aristotle, *Meteorologica* 1.9–2.2, esp. 2.2.354b25–30.
34. Ibid., 1.9.346b35–347a9.
35. It was, incidentally, Aristotle's theory of water circulation that largely stood behind Pierre d'Ailly's famous corroboration of Aristotle's claim in *On the Heavens* that only a short distance lay between the Pillars of Hercules and the end of the Orient. For according to d'Ailly, the absence of the sun's heat caused greater accumulation of water in the poles than in the equator, where one could conversely expect to find a much greater proportion of land. See d'Ailly's *Epilogus mappemundi*, in Ailly and Gerson, 1480–1483/1990, 42r–v; and Columbus's postils 494, 495, 496, and 497. Columbus explicitly ties this passage in d'Ailly (postil 496) to the widely cited chapter 8 in *Ymago mundi*, where d'Ailly discusses the extension of inhabited land (d'Ailly and Gerson 1480–1483/1990, 13r–v). It should be added that on this and many other counts, d'Ailly's geography was heavily dependent on Roger Bacon's *Opus maius* IV (about 1266–1267). See Bacon 1897, 1:290–292.
36. See Aujac 1987b, 163.
37. Homer, *Odyssey* 1.23–24 (1996, 78).

38. Strabo, *Geography* 1.2.24–28 and 2.5.10–13 (1917–1932).
39. Ptolemy, *Geography* 1.6–20 (Berggren and Jones 2000, 63–83).
40. Ptolemy, *Almagest* 2.1 H88 (1998), specifies the northern horizontal quadrant as being bound "by the equator and a circle drawn through the poles of the equator"; and his *Geography* 7.5 (Berggren and Jones 2000, 110) specifically places the southernmost and northernmost limits of the known world at 16° 25′ S and 63° N of the equator (approximately 80 degrees in latitude), and its easternmost and westernmost limits at 119° 30′ E and 60° 30′ W of the meridian of Alexandria (approximately 180 degrees in longitude).
41. See Ptolemy, *Almagest* 2.1 H88 (see also 1998, 75 and n. 1); and 6.6 H498, 294. Ptolemy's astrological *Tetrabiblos* 2.2 (1980) also uses the phrase "our portion of the inhabited world" to describe the quadrant occupying half of the northern hemisphere. (I have not yet been able to ascertain whether this phrase is also used in the Greek original of the *Geography*.)
42. Ptolemy, *Geography* 1.8–9 (Berggren and Jones 2000, 67–70).
43. See under "Unknown Land" in Beggren and Jones 2000, 180–181; and, in particular, Ptolemy's *Geography* 7.5 (Beggren and Jones 2000, 107–111). Ptolemy's endorsement of an "open" geography was not as exceptional in Antiquity as the annotators of this translation claim (Beggren and Jones 2000, 22 and n. 22).
44. Macrobius, *Commentary on the Dream of Scipio* 2.5.16, 203 (1990).
45. For a discussion of quadripartite maps, see Woodward 1987, 296–297, 302–304, and 357. Such maps tend to be identified with Isidore's works, as well as with the eighth-century *Commentarium in Apocalypsim* by the Benedictine abbot Beatus of Liebana.
46. For Acosta's influential thesis that humans, beasts, and plants had come to populate the Americas by way of a land bridge, see *Historia natural y moral de las Indias* 1 (1590/1998,13–84).
47. Consider Hesiod's influential account of the ages of man in *Works and Days* (1993), which recounts the successive creations of five different races of humans by different deities, or Ovid's later version of the ages of man in the *Metamorphoses* 1.76–150 (1999), completed in 7 CE, which simultaneously claims that it was the trickster god Prometheus who modeled man from earth and water and recounts the Hesiodic myth of the ages of man. The contrast between Greco-Roman mythology and Christian theology (which tolerated only one creation of man in one place at one time) is best illustrated by myths describing autochthonous generation, or generation from the soil. Perhaps the best-known example is the birth of Erichthonius, son of Hephaestus and Gaia (earth). When Hephaestus attempted to rape the chaste Athena, she flung his semen to the ground and Erichthonius sprang from the earth. Erichthonius's birth is retold in the Apollodorian *Library* 3.14.6 (1997) (1st or 2nd century CE), but the earliest reference to him may appear in Homer's *Iliad* 2.545–549 (1990, 117), which describes Erichthonius (Erechtheus) as the son of "the grain-giving

fields" (Gantz 1993, 233–237). This myth may stand behind Plato's funeral oration *Menexenus,* in which Pericles' mistress Aspasia eulogizes Athenians as being literally "children of the soil" (237b–238a [1997b]). Another important instance of autochthonous generation appears in Pausanias's *Description of Greece* (2nd century CE), which refers to Pelasgus (father of the Peloponnesians) in similar terms (8.1.4–5 [1898]). The Apollodorian *Library* 2.1.1 and 3.7.7 attributes the telling of the Pelasgian creation to Hesiod. Finally, Greco-Roman mythology did not rule out the possibility that humankind had populated by preternatural means otherwise inaccessible lands. The example mentioned here appears in Homer, who tells us in the *Odyssey* V and VI that Odysseus was carried off by Poseidon's fury to the land of Scheria (believed to correspond to the island of Corfu), whose inhabitants the Phaeacians had been led by their god-king Nausithous "in a vast migration . . . far from the men who toil on this earth" (6.7–8 [1996, 174]). Hence the words of Nausicaa (King Alcinous's daughter) to Odysseus: "'We live too far apart, out in the surging sea, / off at the world's end— / no other mortals come to mingle with us" (6.204–205 [1996, 174]). Another early example comes from Hesiod, who tells us in *Works and Days,* lines 189–192, that Zeus granted "the divine race of Heroes" (the fourth generation of men), "life apart from other men, / Settling them at the ends of the Earth./And there they live, free from all care, / In the Isles of the Blest [Canary Islands], by Ocean's deep stream" (1993).

48. Strabo, *Geography* 2.5.13.
49. Augustine, *The Literal Meaning of Genesis* 1.12 (1982). For the Latin text, see Augustine 1970, 19. Augustine's commentary of these verses is lamentably brief, especially compared to those of his immediate predecessors Saint Basil (about 329–379) and Saint Ambrose (died 397). See Basil's *Homily* 4 in *Exegetic Homilies* (1963); and Ambrose's *Homily* 4 in *"Hexameron," "Paradise," and "Cain and Abel"* (1961).
50. Augustine, *The City of God against the Pagans* 16.9 (1957–1972).
51. Ibid., 16.1–11.
52. Ibid., 16.9.
53. See Woodward's discussion of the content and meaning of medieval *mappaemundi* (1987, 326–342).
54. For the manner in which Albertus and Bacon worked their way around the question of the antipodes, see *De natura loci* 1.7 (1980b, 12–14) and *Opus majus* IV (1897, 1:290–308).
55. Bernáldez, *Historia de los Reyes Católicos* 118 (1870, 1:358).
56. Mandeville, *El libro de las maravillas del mundo* 22 (2002, 197); all translations from this work are my own.
57. For a discussion of Prester John, see chapter 6.
58. Aristotle, *Physics* 4.1 (1995i).

59. Ibid., 4.4.211.a4–5.
60. Aristotle, *On the Heavens* 4.3–5 (1995f); and Aristotle, *On Generation and Corruption* 2.3 (1995e). See also chapter 4.
61. Paul of Burgos 1485, 1:iiiv; all translations from this work are my own.
62. Ibid., 1:iiiv–iiiir.
63. See Duhem 1958, 9:87–93. My discussion of the antecedents for Burgos's views on the proportion between earth and water largely follows Duhem 1958, 9:87–103.
64. Paul of Burgos 1485, 1:iiiir.
65. See Duhem 1958, 9:91–93; and Aristotle, *On Generation and Corruption* 2.6.333a16–34. Aristotle is here replying to Empedocles' assertion that the elements were "all equal" (2.6.333a20).
66. Duhem 1958, 9:92.
67. Aristotle, *Meteorologica* 1.3.340a11–13.
68. Aristotle, *Physics* 4.6–9, esp. 4.9.
69. See Duhem 1958 9:95–96; and Plato, *Timaeus* 32b–c (1997e).
70. See Duhem, 1958 9:95; and Macrobius, *Commentary on the Dream of Scipio* 1.6.32 (1990). For the Latin text, see Macrobius 2003, 31–32.
71. Paul of Burgos 1485, 1:iiiir.
72. Ibid., 1:iiiir. For this reason, Burgos explains, "philosophers" had claimed that the proportion between earth and water was also one to ten. It is unclear which of Aristotle's commentators Burgos has in mind. According to Duhem 1958, 9:96, Aristotle's late ancient commentators did not quite spell out the conclusion that the volume ratio between the spheres of earth and water was one to ten, but many certainly assumed that water's total volume was significantly greater than earth's.
73. Ptolemy, *Almagest* 2.1 H88.
74. Paul of Burgos 1485, 1:iiiir. Burgos is here making a distinction between the "wrong" term *condensentur* and the "right" term, *congregentur.*
75. Basil, *Exegetic Homilies* 4.3. Basil's example refers us to the early attempt by Egypt's King Sesostris II (19th century BCE), imitated by subsequent rulers, to build a canal between the Nile River and the Red Sea. This attempt is documented in, among other works, Aristotle's *Meteorologica* 1.14.352b1–353a14, though Basil's source is more likely to be Pliny (*Natural History* 6.33).
76. See Duhem's discussion of Philoponus (1958, 9:93–97); and Olympiodorus et al. 1551, ?105r and ?108r.
77. See Duhem's discussion of Olympiodorus (1958, 9:97–98); and Olympiodorus et al. 1551, 5r.
78. Duhem 1958, 2:283–284 and 9:97–98. Pliny presents an important exposition of this Posidonian theory (*Natural History* 2.65). This theory of water's eccentricity with respect to earth developed

in Posidonius's lost treatise *On the Ocean* was not new among the high scholastics. It was already strongly implied, for instance, in Sacrobosco's discussion of water's sphericity in his popular *De sphaera* 1 (Thorndike 1949, 83).

79. Paul of Burgos 1485, 1:vr. The Christian tradition that explained the presence of land on the globe by citing God's suspension of physical principles has been traced as far back as the teachings of the *Mutakallimun,* the Muslim scholars of the ninth century. See Duhem 1958, 9:102–103, citing Maimonides' assertion that it was the *Mutakallimun* who claimed that the presence of land "above" water was determined by God. For Maimonides' mention of this claim, see his *Guide for the Perplexed* 1.74 (1963, 218).
80. Paul of Burgos 1485, 1:iiiir. Burgos uses the verb form *inclinentur.* For the explanation corresponding to the figure that illustrates Burgos's theory, see ibid., vr.
81. Ptolemy, *Almagest* 4.
82. Paul of Burgos 1485, 1:iiiiv.
83. Ibid., 1:vr.
84. Randles 1990, 13–15.
85. It should be noted that Geraldini's testimony wrongly situated the extent of Portugal's exploration near the Antarctic circle (approximately 66° 30′ S); Bartolomeu Dias's historic rounding of the Cape of Good Hope in 1488—a feat that Columbus would surely have made known to Geraldini and other members of the Santa Fe assembly—had extended Portugal's exploration to little more than 35° S.
86. Las Casas, *Historia* 1.3.1.39 (1994, 1:504), who saw the enterprise of the Indies as a duplication of Portugal's imperial exploits on the western coast of sub-Saharan Africa, takes license to add to Ferdinand's account what he believes was implicit in the minds of Columbus's opponents when they argued that only littoral navigation was possible: "It was impossible to navigate, were it not along the *rivieras* or coasts, *as the Portuguese did in* Guinea" (emphasis added).
87. Cape Bojador is, actually, Cape Juby, 27° 57′ N, in modern-day Morocco. The best source on this initial period of Portuguese Atlantic exploration is Russell's recent biography of Henry the Navigator (2000). This biography should be read in conjunction with Adão da Fonseca's brilliant analysis of Portugal's territorial expansion during the fifteenth century (1993). On the rounding of Cape Bojador, see Russell 2000, 109–134; Zurara, *Crónica dos feitos notáveis* 7–9 (1978–1981, 1:43–53); and Barros, *Ásia* 1.2–5 (1552/1932, 11–25).
88. Zurara, *Crónica dos feitos notáveis* 8 (1978–1981, 1:47).
89. Ibid., 8 (1978–1981, 1:48).
90. Barros, *Ásia* 1.2 (1552/1932, 13–14); all translations from this work are my own.
91. Ibid.

92. For Columbus's claim that São Jorge da Mina was "temperate" and densely populated see postils 16a–b, and 234 in Ailly and Gerson 1480–1483/1990, 12r and 25r, resp. For the claim that Columbus or Bartholomew had witnessed Dias's report to Dom João, see postil 23b to Ailly and Gerson 1480–1483/1990, 13r.

93. On the rounding of Africa, see Pliny, *Natural History* 2.67 and 6.34.175–176, who reported the voyage by the Carthaginian sailor Hanno (5th century BCE) from Cádiz to "Arabia"; and Strabo, *Geography* 2.3.4–5, who reproved Posidonius for believing the story of Eudoxus of Cyzicus, a Greek sailor who presumably had served King Euergetes II of Egypt (reigned 145–116 BCE) and later headed a doomed expedition from Cádiz to India. The earliest expedition recorded by Pliny and Strabo came from Herodotus, *History* 4.42–43, who stated that King Necho II of Egypt (reigned 610 and 595 BCE) had sent a fleet of Phoenicians from the Red Sea back to Egypt. On Taprobane, see Pliny, *Natural History* 6.24.89; and Mela, *Description of the World* 122 (1998): "Taprobane [Sri Lanka] is said to be either a very large island or the first part of the second world [i. e., Crates' *antoikoi*]." For the Latin version of Mela, see *De chorographia* 3.70 (1971). For a scrupulous study of the textual tradition on Taprobane, see Weerakkody 1997. Key sources on Taprobane are Pliny, *Natural History* 6.24; and Strabo, *Geography* 1.4.2, 2.1.14, 2.5.14, 2.5.32, 2.5.35, and 15.1.14–15. According to Pliny, Taprobane had been considered part of the "Antichthones" (actually, Crates of Mallos's *antoikoi*) until Alexander the Great's military campaign in India (about 326 BCE) revealed it to be an island (*Natural History* 6.24.81). Onesicritus, a member of Alexander's Indus flotilla (326–325 BCE), located it "twenty days' voyage distant from the mainland" (Strabo, *Geography* 15.1.15; Megasthenes called its inhabitants "Palaeogoni" and claimed that it was even richer in gold and pearls than India (Pliny, *Natural History* 6.24.81); Eratosthenes situated it "seven days' sail from India," and claimed that it harbored elephants like the Ethiopia to which it extended (Strabo, *Geography* 15.1.14); Strabo himself referred to its location in different manners, supposing it, among other things, to be inhabited despite standing "far south of India" within the torrid zone (*Geography* 2.5.14). Ptolemy would provide latitudes for Taprobane that situated it barely north of the equator (*Cosmographia* 7 [1478, unfoliated, columns 233–236]).

94. See for instance, the letters that Anghiera 1992, 41 and 43, wrote to Cardinal Ascanio Sforza and to Archbishop Diego de Souza in the late summer of 1493, as Columbus headed back for the Caribbean basin.

95. Barros, *Ásia* 3.11 (1552/1932, 112). On Columbus's years in Portugal, see Morison 1942, 1:39–60; Ballesteros Beretta 1945, 1:251–392; and Taviani 1985a, 63–167 and 296–432.

96. Thus in the 1930s Jane, one of Columbus's most influential modern editors in the English world, wrote that "the Indies" was an extremely vague term that included Cathay (1930–1933/1988, lv–lvi).

97. See chapters 3 and 6.

98. Barros was extremely mindful of the connection between the territories discovered by Prince Henry beyond Bojador and the extension granted by Alcáçovas to Portugal to the south and to the east of the Canaries.
99. I am following Lovejoy's useful coinage of this terminology (1964, 52).
100. Marco Polo returned to Europe around 1294, and he found himself captured by the Genoese and imprisoned in Genoa in 1298, where he dictated his book to another prisoner, Rustichello da Pisa. This version, rendered by Rustichello in Old French, was known as *Le divisament dou monde* and soon translated in other languages. Back in Venice, sometime between 1310 and 1320, Marco Polo would compose a new version in Italian known as *Il milione*, now lost, which served as the basis for Francesco Pipino's abridgment in Latin, *De consuetudinibus et condicionibus orientalium regionum* (Larner 1999). It is an annotated copy of Pipino's Latin abridgment that is now held in the Biblioteca Colombina as part of Columbus's "library."
101. Ballesteros Beretta 1945, 1:330–331.
102. See chapter 6.
103. Marco Polo, *De consuetudinibus* 3.8 (1485/1986, 57r–59v).
104. An informative summary of cartographic knowledge in Europe circa 1492 appears in Wallis 1992. On the navigational techniques that Columbus would have learned from the Portuguese, see Waters 1992.
105. Las Casas, *Historia* 1.3.1.28 (1994, 1:495; emphasis added).
106. Ferdinand and Las Casas made this claim for Dom João's betrayal of Columbus's confidence, though there is no independent documentation to confirm it. See F. Columbus, *Historie* 11–12 (1571/1992, 30r–34r); and Las Casas, *Historia* 1.3.1.28 (1994, 1:494–499). For useful considerations of this episode in Columbus's life, see Morison 1942, 1:92–98; Ballesteros Beretta 1945, 1:373–392; and Taviani 1985a, 164–167 and 428–432.
107. For Dom João's charter of this expedition out of the Cape Verde Islands (4 August 1486), see Pérez de Tudela y Bueso et al. 1994, 1:52–53. For Dom João's reply to Columbus's request (20 March 1488), see Pérez de Tudela y Bueso et al. 1994, 1:56–57.
108. See Morison, 1942, 1:118; Ballesteros Beretta 1945, 1:471–478; and Taviani 1985a, 190–191 and 476–477.
109. On Columbus's negotiations with England, see Morison 1942, 1:118–119; Ballesteros Beretta 1945, 1:478–482; and Taviani 1985a, 474–475.
110. F. Columbus, *Historie* 11 (1571/1992, 31v; emphasis added).
111. On Columbus's negotiations with France, see Ballesteros Beretta 1945, 1:482; and Taviani 1985a, 475–476. Morison claims that Bartholomew had already left Castile for France no later than 1490 (1942, 1:119).

112. Humboldt 1936–1939.
113. F. Columbus, *Historie* 5 (1571/1992, 12r).
114. Ibid., 7 (1571/1992, 14r).
115. Taviani 1985a, 146–151 and 393–398.
116. F. Columbus, *Historie* 6 (1571/1992, 14r).
117. See chapter 1. For essential treatments of Columbus's earliest consultations of d'Ailly and other works in his "library," see Morison 1942, 1:120–125; Ballesteros Beretta 1945, 1:342–354; Taviani 1985a, 174–179 and 448–455; and Fernández-Armesto 1991, 33–44. Ballesteros Beretta believes that Columbus's acquaintance with d'Ailly dates back to Columbus's years of residence in Portugal, though not earlier than 1482. Morison and Taviani date Columbus's acquaintance with d'Ailly to the time of his lobbying in Castile—no earlier than 1485. Fernández-Armesto also believes that Columbus had read d'Ailly prior to 1492, but fully aware of the pitfalls in any attempt to establish a *terminus a quo* or a *terminus ad quem* for Columbus's readings, the historian wisely cautions that d'Ailly's and Gerson's *Tractatus* "provides not so much a guide to the development of Columbus's thought as a window on to the range of his priorities" (1991, 40).
118. Pérez de Tudela y Bueso et al. 1994, 2:1114–1115. Based on *Ymago mundi* 8 (Ailly and Gerson 1480–1483/1990, 13r–v).
119. Postil 23g to Ailly and Gerson 1480–1483/1990, 13r. For Comestor's reading of the gathering of the waters, see his *Historia scholastica*, 1473, 2v.
120. Aristotle, *On the Heavens* 2.14.298a7–15.
121. Postil 23c to Ailly and Gerson 1480–1483/1990, 13r.
122. D'Ailly's explanation, fully annotated by Columbus, can be found in his chapter "De aquarum varietate et primo de Oceano." See postils 360–367 in d'Ailly's *Ymago mundi* 49 (Ailly and Gerson 1480–1483/1990, 32r–v). See also note 35 above.
123. Ailly and Gerson 1480–1483/1990, 13r.
124. Aristotle, *On the Heavens* 2.14.298a10–15.
125. Ailly and Gerson, *Ymago mundi* 31 (1480–1483/1990, 23r). See also Columbus's postil 228 on the same folio.
126. See chapter 5.
127. Postil 365 in Ailly and Gerson 1480–1483/1990, 32r.
128. See Ptolemy's *Geography* 1.6–20 (Berggren and Jones 2000, 63–83).
129. See *Fourth Ezra* 6:42 (Cross 1990, 178).
130. Postil 23e to Ailly and Gerson 1480–1483/1990, 13r; emphasis added.
131. See Michael E. Stone's Introduction to Cross 1990, 43.
132. Postils 23f and 23g to Ailly and Gerson 1480–1483/1990, 13r.

133. Postil 23f to d'Ailly 1480–1483/1990, 13r.
134. Pérez de Tudela y Bueso et al. 1994, 2:1115.
135. Postil 23b to Ailly and Gerson 1480–1483/1990, 13r.
136. Pérez de Tudela y Bueso et al. 1994, 1:450–452.
137. Ptolemy, *Geography* 1.7 (Berggren and Jones 2000, 63–83).
138. Ibid., 1.23 (Berggren and Jones 2000, 85).

3 The Meaning of India in Pre-Columbian Europe

1. Martín-Merás 1993, 69–158.
2. Fernández de Enciso 1519, gviv–gviir: *al Poniente . . . al Mediodia*.
3. Fernández de Enciso 1519, aiiiiv.
4. See Aujac 1987a, 134–135; and Bunbury 1959, 1:134–155.
5. See Bunbury 1883/1959, 1:142; and fragments 174–178 in Müller 1841–1938/1975, 1:12.
6. McCrindle 1960, 29.
7. Diodorus Siculus, *Bibliotheca historica* 2.35 (1933–1967): "Now India is four-sided in shape and the side which faces east and that which faces south are embraced by the Great Sea, while that which faces north is separated by the Emodus range of mountains from that part of Scythia which is inhabited by the Scythians known as the Sacae."
8. Strabo, *Geography* 15.1.11 (1917–1932); and Mela, *Description of the World* 3.61 (1998): "India is situated not only on the Eastern Sea but also on the south-facing sea that we have called the Indian Ocean, and it is bounded from this point by the Taurus Range and on the west by the Indus. India occupies a coastline that equals a sail of sixty days and nights. It is so remote from our regions that in a certain part of India neither north star is visible and—again different from elsewhere—shadows fall to the south." For the Latin text, see Mela, *De chorographia* (1971).
9. Ptolemy, *Cosmographia* 7 (1478, unfoliated, cols. 217–232); and the entries for "Seres" and "Sinai" in Berggren and Jones 2000, 178.
10. Pérez de Tudela y Bueso et al. 1994, 1:249. For a useful account of this letter's early diffusion see ibid., 1: 257–267. On the introduction of an east African India, that later became India Tertia, see Beazley 1897–1906, 3:151–152 and 225–231. According to Kimble, the threefold division that tended to circulate in the Middle Ages—India Minor, India Maior, and India Tertia—corresponded, respectively, to the Sind, the Hind, and the Zindj of Arab geographers (1938, 128). The Sind would have run roughly from the basin of the Indus toward the Malabar Coast; the Hind, from the Malabar Coast onward; and the Zindj, along the African territories facing the Indian Ocean. See also my discussion of the various "Indias" in chapter 6.

11. F. Columbus, *Historie del S. D. Fernando Colombo* 6 (1571/1992, 14r).
12. Pérez de Tudela y Bueso et al. 1994, 1:71.
13. See the entries for "Kattigara" and "Cape Prason" in Berggren and Jones 2001, 173–174 and 176, resp.; and Ptolemy, *Cosmographia* 7 and 4, resp. (1478, unfoliated, cols. 233 and 149, resp.). Ptolemy located Kattigara at 8° 30′ S, and 177° E of the 0° meridian he had placed along the westernmost territories known to him, the Isles of the Blest (Canary Islands). The tendency to identify Kattigara as the Vietnamese Hanoi (21° 5′ N, 105° 55 E) is debatable. Hanoi is almost thirty degrees distant in latitude from where Ptolemy located Kattigara. Such an interpretation takes Ptolemy too literally in his depiction of the littoral that presumably extended beyond the Malaysian Peninsula (Aurea Chersonesus) and that eventually turned to the south and then to the west in order to enclose the Indian Ocean. Just as the littoral joining Kattigara with Cape Prason was a convenient way of encoding the absence of information concerning what lay beyond these points, so the littoral joining the Golden Chersonese with Kattigara reflects Ptolemy's lack of awareness that the Asian coastline no longer curved to the south beyond the Malaysian peninsula and that Kattigara itself might have been an insular location in Indonesia. The convention of drawing a hypothetical littoral between two otherwise known points had long been established among geographers. See Strabo's explicit discussion of this practice in his *Geography* 2.5.5. Cape Prason (Rhaptum Promonturium), which Ptolemy located at 8° 25′ S and 73° 50′ E of the Isles of the Blest, is perhaps Cape Delgado in Mozambique (10° 45′ S, 40° 40′ E).
14. For Ptolemy's description of the Indian Ocean as an interior sea, see "India, sea of" in Berggren and Jones (2000, 173); and Ptolemy, *Geography* 7.5 (ibid., 108–111). For his treatment of uncharted territory, see "Unknown Land" in Berggren and Jones 2000, 180–181; and, in particular, Ptolemy, *Geography* 7.5 (ibid., 108–111). For further discussion of uncharted territory in the works of Ptolemy and other Greco-Roman geographers, see my treatment of open geographical models in chapter 2.
15. Postil 663 to d'Ailly's *Compendium cosmographie* I, in Ailly and Gerson 1480–1483/1990, 75v. Following Ptolemy, d'Ailly calls this arm of land reaching from Africa around the Indian Ocean Agysimba. On the unknown land to the west d'Ailly writes: "Also on the west lies unknown land that embraces Africa's Ethiopian gulf and then reaches out to the western ocean that bathes the westernmost parts."
16. See the documents known as *Capitulaciones de Santa Fe* (17 April 1492) and *Carta de merced* (30 April 1492), in Pérez de Tudela y Bueso et al. 1994, 1:64 and 74, resp.
17. Colón 1992, 382.
18. See Fernández-Armesto's distinguished biography of Columbus 1991, 122–128. Fernández-Armesto convincingly argues (1992, 23–44) that one of Columbus's goals was to reach the antipodes,

although, like many of Columbus's biographers, he seems to perceive a disjunction between Columbus's goal of reaching the antipodes and his goal of reaching Asia. Sale (1990, 170–173) also argues that Columbus's insight that he had discovered a southern continent was part of admitting to himself that the territories he had discovered were not in the confines of Asia.

19. Compare Sale (1990, 204–205), who sees Columbus's use of the term West Indies as an admission that his discoveries had nothing to do with Asia.
20. Pérez de Tudela y Bueso et al. 1980, 3:1835–1836 and 1856–1861.
21. Ibid., 3:1391. This document was to be incorporated into Columbus's famous *Book of Privileges* (*Libro de los privilegios*).
22. F. Columbus, *Historie* 5 (1571/1992, 12r; emphasis added).
23. Las Casas, *Historia de las Indias* 1.3.1.28 (1994, 3:495).
24. Herodotus, *History* 3.98 (1987).
25. On the locations of "Arabia" and the "Macrobians," see Herodotus, *History* 3.107 and 3.17. On the tradition that saw these "Ethiopians" as a happy, long-lived race, see Romm 1992.
26. Herodotus, *History* 3.101 and 3.104.
27. Freese 1920, 111.
28. Diodorus Siculus, *Bibliotheca historica* 2.35.
29. The practice appears to have been introduced for the first time in the form of a sundial brought to Sparta by the philosopher and astronomer Anaximander (about 624–547 BCE). See Aujac, 1987a, 134.
30. The latitudes to which Ursa Minor, Arcturus, and Ursa Minor would have been visible have been calculated by Jed Z. Buchwald for the year 310 BCE.
31. Pliny, *Natural History* 6.22.69 (1938–1963). Referring to the region of "Mount Maleus" inhabited by the races of the "Monaedes" and "Suari," Pliny asserts: "According to Baeton the constellation of the Great Bear is only visible in this region one time in the year, and only for a period of a fortnight [i.e., fifteen days]; and Megasthenes says that the same thing occurs in many other places in India."
32. McCrindle 1960, 30.
33. Pliny, *Natural History* 6.21.58: "In that country the aspect of the heavens and the rising of the stars are different, and there are two summers and two harvests yearly, separated by a winter accompanied by etesian winds, while at our midwinter it enjoys soft breezes and the sea is navigable." See also Solinus 1958, 183; Martianus Capella, *On the Marriage of Philology and Mercury* 6.607 (Stahl 1971–1977, 2:226–227); and Isidore, *Etymologías* 14.3.6 (1983).
34. Pérez de Tudela y Bueso et al. 1994, 2:659; emphasis added.
35. Strabo, *Geography* 2.1.35.
36. For an explanation of this phenomenon, see chapter 4.

37. Pérez de Tudela y Bueso et al. 1994, 1:565–573; this quote, 571.
38. Ibid., 2:721–746; this quote, 722.
39. Strabo, *Geography* 2.5.7.
40. Ibid., 17.1.48.
41. See Herodotus, *History* 2.29; and Strabo, *Geography* 2.5.7. Eratosthenes famously calculated the earth's circumference to be 252,000 stades and divided this circumference into 60 intervals. According to Eratosthenes, the distance from the equator to the Tropic of Cancer was four-sixtieths of the earth's circumference, meaning that the Tropic of Cancer stood 16,800 stades north of the equator, the equivalent of approximately 24° N latitude. Eratosthenes further assumed that Syene and Meroë lay along the same meridian, and that Meroë was 5,000 stadia to the south of Syene, or the equivalent of about 17° N (modern 16° 52′ N) latitude. The stade originally designated "the distance covered by a plow in a single draft," but authors disagree on its exact modern equivalents; see Aujac 1987a, 148n3. For a discussion of Eratosthenes' measurement of the earth's circumference, see Aujac 1987a, 154–155.
42. Arrian, *Indica* 25.4.8 (1973–1983).
43. Strabo, *Geography* 15.1.13. Indographers after Onesicritus would long continue to stress Taprobane's meridional remoteness. According to Strabo, Eratosthenes (about 275–174) had situated Taprobane "seven days' sail towards the south from the most southerly parts of India, the land of the Coniaci," and supposed that it extended "eight thousand stadia in the direction of Ethiopia" (Strabo, *Geography* 15.1.14). Strabo himself referred to Taprobane's location in different manners, supposing it to be inhabited despite standing "far south of India" (Strabo, *Geography* 2.5.14). And Ptolemy would later provide latitudes for Taprobane that situated it barely north of the equator (*Cosmographia* 7 [1478, unfoliated, cols. 233–236]).
44. Pliny, *Natural History* 6.24.81. The idea that Taprobane was part of the "antichthones" was in fact held by Pliny's predecessor, Pomponius Mela, in his *Chorographia*. See *Description of the World* 3.70.
45. Pliny, *Natural History* 6.34.89. Key sources on Taprobane are Strabo, *Geography* 1.4.2, 2.1.14, 2.5.14, 2.5.32, 2.5.35, and 15.1.14–15; and Pliny, *Natural History* 6.24. For a scrupulous study of the textual tradition on Taprobane, see Weerakkody 1997.
46. Strabo, *Geography* 2.1.2.
47. Since the measure of the stade is unclear, I provide instead measurements in degrees, which can easily be deduced from Eratosthenes' measurement in stades. See note 41, above.
48. Aujac 1987a, 153–157.
49. Strabo, *Geography* 2.5.6. Needless to say, this projection of the inhabited world—which clearly took into account the fact that horizontal distances on the globe's surface decreased as points on either side of the meridian in question approached the poles—automatically assigned greater width or

"longitude" to those inhabited latitudes approaching the equator, that is, to the Afro-Indian tropics, than to those approaching the north pole.

50. Strabo, *Geography* 2.5.7; see also 1.4.6.
51. Ibid., 1.4.2.
52. Ibid., 2.1.1.
53. Eratosthenes added the "lengths" in stades that joined India's easternmost point to the Indus River (16,000), to the Caspian Gates (14,000), to the Euphrates River (10,000), to the Nile (5,000), to the "Canobic" mouth of the Nile (in Alexandria, 1,300), to Carthage (13,500), and to the Pillars of Hercules (at least 8,000). According to Strabo, he also added about 2,000 on either side "to keep the breadth from being more than half the length." Strabo, *Geography* 1.4.5.
54. Strabo, *Geography* 1.4.6.
55. Aujac 1987a, 156.
56. For Strabo's discussion of Eratosthenes' seals, I follow *Geography* 2.1.
57. Strabo, *Geography* 2.1.22.
58. As Strabo explains (*Geography* 2.1.22), Eratosthenes did not specify whether the western boundary of the second seal was parallel or not to the Indus River, nor whether its southern boundary was parallel to the parallel of Rhodes, so that these boundaries can be represented as diagonals.
59. The third seal presents particular difficulties for Strabo because of its irregular shape: its northern side is diagonal to the axial parallel, because it runs to where the Euphrates River begins; the Euphrates itself snakes to the south, then to the east, and finally to the south toward the Persian Gulf; the Persian Gulf itself undercuts the "southern" side of this seal diagonally. See Strabo, *Geography* 2.1.23–26.
60. Ibid., 2.1.32.
61. Ibid., 2.1.3–13, for Strabo's evaluation of Eratosthenes' calculation.
62. Ibid., 16.4.2.
63. Ibid., 2.5.15. Later (2.5.33) Strabo describes Lybia as a "trapezium," since the diagonal line that runs toward the Pillars of Hercules from Ethiopia is approximately parallel to Libya's Mediterranean shores, and then turns northward to form a "sharp" promontory, before turning back into the Mediterranean Sea. Elsewhere (17.3.1) Strabo describes Lybia as a right triangle formed by the Mediterranean coast, the Nile, and the Atlantic coastline joining Ethiopia with Maurusia, or Mauretania. He accords Lybia about 13,000 or 14,000 stades in breadth and no more than twice that measure in length (26,000 to 28,000 stades).
64. Strabo, *Geography* 15.1.13 and 15.24–26.
65. Pérez de Tudela y Bueso et al. 1994, 2:832.

66. Strabo, *Geography* 2.5.16.
67. See Aujac's discussion of Hipparchus (1987b, 164–167); and Strabo, *Geography* 1.1.12.
68. Strabo, *Geography* 2.5.34.
69. It appears that Ptolemy, like Strabo, owed his own table of latitudes to Hipparchus's calculations. See Dilke 1987, 182–183. On the division of the world according to seven *climata,* see also chapter 1, note 61.
70. Equinoctial hours were units of time measured during the equinox, when day and night were of equal length to each other.
71. Laguardia Trías 1964 and 1973.
72. Strabo, *Geography* 2.5.36–42.
73. Ibid., 2.5.38. Coelesyria, Upper Syria, and Babylonia would have roughly crossed the Syrian Desert, from the Mediterranean Sea and the Tigris River. Susiana and Persia presumably stood east of the Tigris and north/northeast of the Persian Gulf (part of Eratostheneses' third sphragis). And Carmania and Upper Gedrosia presumably belonged to Ariana (Eratosthenes' second sphragis).
74. Strabo, *Geography* 2.5.36.
75. Ibid.
76. Ibid., 2.5.35.
77. Postil 56 to Piccolomini 1477/1991, 6v. All translations from this work are my own, in consultation with the Spanish translation by Antonio Ramírez de Verger.
78. Strabo, *Geography* 1.2.24–1.2.30.
79. Ibid., 2.5.10.
80. Ibid., 2.5.13. See my discussion of this issue in chapter 2.
81. Woodward 1987, 353.
82. Two Latin translations from different Greek codices were produced in the early fifteenth century, one by Jacopo d'Angelo (about 1406), containing no maps; and another, with maps, in 1415 by Francesco Lapacino and Domenico Buoninsegni. It seems that the maps contained in all known manuscripts and printed editions of the *Geography* were constructed by Maximus Planudes about 1300 on the basis of the instructions contained in Ptolemy's work. See Berggren and Jones 2000, 45–52; and Diller 1940.
83. Woodward 1987, 354.
84. Postil 79 in Ailly and Gerson 1480–1483/1990, 18r.
85. Postil 75 in ibid., 18r.
86. Ptolemy, *Geography* 7.5 (Berggren and Jones 2000, 108–111).
87. Ibid., 1.6–20 (Berggren and Jones 2000, 63–83).

88. Ibid., 1.23 (Berggren and Jones 2000, 85).
89. See Berggren and Jones 2000, 168; and Ptolemy, *Geography* 1.8 (ibid., 67–68) and *Cosmographia* 4 (1478, unfoliated, col. 152).
90. Ptolemy, *Cosmographia* 4 (1478, unfoliated, col. 144).
91. See Ptolemy, *Cosmographia* 4 and 7, resp. (1478, unfoliated, cols. 149 and 233, resp.). See also the entry for "Unknown Land" in Berggren and Jones 2000, 180–181; and, in particular, *Geography* 7.5 (Berggren and Jones 2000, 108–111). Ptolemy's endorsement of an open geography was not as exceptional in antiquity as the editors claim (see Berggren and Jones 2000, 22n22).
92. Ptolemy, *Cosmographia* (1477, 1478, and 1482).
93. Ravenstein 1908, 32–34.
94. Ibid., 62–64.
95. Pérez de Tudela y Bueso et al. 1994, 1:116.
96. The first one of these works, seemingly a Ptolemaic map, was promised by Columbus in the prologue to the *Diario*. See ibid., 1:109. Another, he appears to have sent to the Crown from the recently founded town of La Ysabela during the second voyage (20 January 1494), showing parallels and meridians, as well as a red vertical meridian that divided the discoveries he had just realized in the Lesser Antilles from those realized in the Bahamas and outer shores of the Caribbean in the course of the first voyage. See ibid., 2:526–527.
97. For a recent example, see Comellas 1995, 66–76.
98. Pérez de Tudela y Bueso et al. 1994, 1:1281–1285; emphasis added.
99. Ibid., 2:835; emphasis added.
100. Bernáldez 1870, 1:357; my translation.
101. Pérez de Oliva 1965, 41; my translation.
102. Fernández de Oviedo y Valdés, *La historia general y natural de las Indias* 1.2.1 and 1.2.2 (1535, iir and iiv, resp.).
103. F. Columbus, *Historie* 3 (1571/1992, 7r–v).
104. López de Gómara 1552/1979, 28–29.
105. Las Casas, *Historia* 1.3.1.30 (1994, 1:509).
106. For an analysis of these sketches, see Baldacci 1997, 23–32.
107. The map was controversially attributed to Columbus by Charles de la Roncière in 1924. For a recent discussion of the so-called "Columbus Chart," see Comellas 1995.
108. For the section of Zorzi's *Informazione* concerned with Bartholomew Columbus's account of his brother's fourth voyage, see Pérez de Tudela y Bueso et al. 1994, 3:2084–2087. For a list of the places named in the geographical sketches attributed to Bartholomew, see ibid., 3:2088–2089,

2090–2091, and 2092–2093. A superb analysis of the geographical notions contained in these sketches can be found in Cerezo Martínez 1994, 119–128. All translations from Zorzi are my own.

109. See Colón 1992, 382; and Pérez de Tudela y Bueso et al. 1994, 2:1230.
110. For a brief discussion of the debate surrounding these sketches, see Cerezo Martínez 1994, 127.
111. Herodotus, *History* 3.98–100.
112. Ibid., 3.106.
113. Freese 1920, 111.
114. Ibid., 114.
115. Ibid., 120.
116. Isidore, *Etymologías* 14.3.7.
117. Diodorus Siculus, *Bibliotheca historica* 2.36.
118. Strabo, *Geography* 15.1.37.
119. Pliny, *Natural History* 6.24.89.
120. Arrian, *Indica* 8.8–12.
121. Solinus 1958, 193–195.
122. Isidore, *Etymologías* 14.3.7.
123. McCrindle 1960, 29.
124. Ibid., 31.
125. Ibid.
126. Ibid., 30.
127. Ibid., 34.
128. Diodorus Siculus, *Bibliotheca historica* 2.36.
129. Strabo, *Geography* 15.1.21.
130. Ibid., 15.1.22.
131. Mela, *Description of the World* 3.62.
132. Pliny, *Natural History* 7.2.21.
133. Isidore, *Etymologías* 14.3.5.
134. Pérez de Tudela y Bueso et al. 1994, 1:240.
135. For a classical study of Columbus's confrontation with American nature, see Gerbi 1975/1985, 3–22. A useful reflection on Columbus's role as a "witness" in the invention of American exotica can be found in Campbell 1988.
136. Pérez de Tudela y Bueso et al. 1994, 2:724, 1:129, and 1:571.
137. Ibid., 1:572.
138. Ibid., 2:722.

139. Ibid., 2:724.
140. Ibid., 2:738.
141. Ibid., 2:1148; emphasis added.
142. Herodotus, *History* 3.106.
143. Freese 1920, 111.
144. Ibid., 112.
145. Ibid., 114.
146. McCrindle 1960, 30.
147. Strabo, *Geography* 15.1.15.
148. Ibid., 15.1.37.
149. Isidore, *Etymologías* 12.4.5.
150. Pérez de Tudela y Bueso et al. 1994, 1:128–129. Dunn and Kelley 1989, 89 interpret the term *gallos* as "small, edible saltwater fish with a golden color."
151. Pérez de Tudela y Bueso et al. 1994, 1:133.
152. Ibid., 1:206.
153. Ibid., 3:1519.
154. Herodotus, *History* 3.101.
155. Freese 1920, 110.
156. Ibid., 115–116,
157. Ibid., 117.
158. Friedman 1980, 61.
159. For Megasthenes' and Strabo's contributions to Western teratology, see Strabo, *Geography* 15.1.57–59, and 15.2.1–2.
160. Pliny, *Natural History* 6.21.58: "Its races and cities are beyond counting, if one wished to enumerate all of them."
161. Ibid., 7.2.32.
162. Ibid., 6.35.187.
163. Solinus 1958, 186; all translations from this work are my own.
164. Mandeville 2002, 23, 205.
165. Pérez de Tudela y Bueso et al. 1994, 1:142.
166. Ibid., 1:209.
167. Ibid., 3:1535.
168. Arrian, *Indica* 15.12.
169. Solinus 1958, 183.
170. Diodorus Siculus, *Bibliotheca historica* 2.36.

171. Ibid., 2.37.
172. Ibid.
173. Strabo, *Geography* 15.1.13.
174. Ibid., 15.1.20.
175. Ibid.
176. Ibid., 15.1.22.
177. Mela, *Description of the World* 1.11: "We are told that the first humans in Asia, starting from the east, are the Indians, the Seres [Silk People], and the Scyths. The Seres inhabit more or less the middle of the eastern part. The Indians and the Scyths inhabit the extremities, both peoples covering a broad expanse and spreading to the ocean not at this point only. For the Indians also look south and for a long time have been occupying the shore of the Indian Ocean with continuous nations, *except insofar as the heat makes it uninhabitable*" (emphasis added).
178. Mela, *Description of the World* 3.67: "From the Ganges to Point Colis, except where it is too hot to be inhabited, are found black peoples, Aethiopians so to speak."
179. Ibid., 1.52.
180. Diodorus Siculus, *Bibliotheca historica* 2:88–91.
181. Arrian, *Indica* 9.7–8.
182. See Herodotus, *History* 3.94; and Columbus's letter to Luis de Santángel (15 February 1493), in Pérez de Tudela y Bueso et al. 1994, 1:249.
183. Pérez de Tudela y Bueso et al. 1994, 1:572.
184. Ibid., 1:535–536.
185. Ibid., 1:523–538.
186. Ibid., 2:1104.
187. Ibid., 1:565.
188. Ibid., 2:744–745.
189. Ibid., 2:745.
190. Ibid., 1:571.
191. Ibid., 2:1109–1110.
192. In my use of the term "wonder," I am gratefully indebted to Daston and Park 1998.
193. Pérez de Tudela y Bueso et al. 1994, 1:250–251; emphasis added.
194. Anghiera 1992, 41 and 43.

4 From Place to Colonialism in the Aristotelian Tradition

1. Beazley 1879–1906, 3:500–504; Gérard 1904, 153; Mandonnet 1893a, 39–82, and 1893b; and Kimble 1938, 69–99, esp. 82–85.
2. Mandonnet 1893a and 1893b.
3. On Columbus's connection with Deza and the monastery of San Esteban, see Ballesteros Beretta 1945 1:451–458; Manzano Manzano 1964, 42–43 and 79; and Taviani 1985a, 192, 442, and 481–482. Surprisingly, Las Casas cites Deza's role as Columbus's protector but says nothing about Columbus's stay in the monastery of San Esteban (*Historia de las Indias* 1.3.1.29 and 1.3.1.30 [1994, 1:503 and 510, resp.]).
4. On the royal council appointed in 1486 to evaluate Columbus's plan, see Ballesteros Beretta 1945, 1:446–455 and 487–493; Manzano Manzano 1964, 65–111; and Taviani 1985a, 172–173 and 441–443. On the royal council's final assembly in Santa Fe, see Ballesteros Beretta 1945, 1:513–515; Manzano Manzano 1964, 251–260; and Taviani 1985a, 196–197.
5. It has been claimed that the cautious Hernando de Talavera, the learned Jeromite friar who had presided over the assemblies that rejected the enterprise of the Indies, also joined ranks at this time with Deza and Cabrero. See Manzano Manzano 1964, 261–77; and Taviani 1985a, 199–201.
6. For this letter, dated 21 December 1504, see Colón 1992, 518–519.
7. Mandonnet 1893a, 99–152; 1893b. The passages discussed by Mandonnet are Albertus's *De caelo et mundo* 2.4.11 (1980a), Aquinas's *De caelo et mundo* 2.28 (1963–1964), and Albertus's *De natura loci* 1.12. For Aristotle's assertion, see *On the Heavens* 2.14.298a7–15 (1995f).
8. For Ferdinand's and Las Casas's views of the royal council, see, respectively, *Historie del S. D. Fernando Colombo* 12 (1571/1992, 32r–34r), and *Historia* 1.3.1.29 (1994, 1.3.1.29, 1:503–507).
9. Mandonnet 1893a, 131–132; my translation. The reference is to the refutation of the pagan theory of the antipodes in Lactantius, *The Divine Institutes* 3.24 (1964), and Augustine, *The City of God against the Pagans* 16.9 (1957–1972). Mandonnet's mention of Lactantius is somewhat misplaced, since Lactantius himself had difficulty accepting the notion that the inhabited world was located on a spherical surface at the center of the cosmos.
10. Ballesteros Beretta 1945, 1:446–455 and 487–493, tends to impugn Las Casas (rather than Ferdinand) with the invention of this opposition between a "learned" Columbus and the "short-sighted" members of the royal council. Ballesteros Beretta attributes the early diffusion of this opposition (this time as an opposition between the Dominican order and the members of the royal council) to the Dominican friar Antonio de Remesal's *Historia general de las Indias y particular de la gobernación de Chiapa y Guatemala* (1619). Remesal claimed that when Columbus stayed in

Salamanca, he found support for his theories only with the members of the monastery of San Esteban. According to Remesal, Columbus "came to Salamanca to communicate his arguments with the teachers of astrology and cosmography, who lectured on these subjects at the University. He began to outline his arguments, and only the friars of San Esteban paid attention and welcomed him. Because at that time, not only theology and the arts were cultivated in that convent, but every other subject taught in the various schools [of the University]" (1619/1964, 1:134; my translation). As Ballesteros Beretta points out, Remesal's claim that "the assemblies of astrologers and mathematicians" gathered in San Esteban and that "there Columbus presented his conclusions and defended them" (1619/1964, 1:134), should not be interpreted to mean that the first official meetings of the royal council appointed by Fernando and Isabel gathered in the University of Salamanca to pronounce judgment on Columbus's proposal (a myth found in some scholarly and many popular accounts of Columbus's interactions with the Crown). Remesal's assertion quite clearly refers to the gatherings of scholars that regularly took place in the various schools of the university, not to the official *junta* later presided over by the Jeromite Hernando de Talavera (Ballesteros Beretta 1945, 1:452–455). While Ballesteros Beretta sees no reason to deny that Columbus might have met informally with the members of San Esteban, he rejects the exclusive role assigned by Remesal to the Dominican order in persuading the Crown to finance Columbus's project. See also Manzano Manzano 1964, 70–72, 78–79, and 96–106, which correctly attributes the invention of the opposition between a "learned" Columbus and the "short-sighted" members of the royal council to Columbus's son Ferdinand. For an invaluable study of the learned arguments wielded by the members of the royal council against Columbus's plan, see Randles 1990.

11. The descriptor *buen estrologo* was used by the Catholic Monarchs in a letter dated 5 September 1493, which ordered Columbus to bring Fray Antonio de Marchena with him on the second voyage in order to assist him with determining "the degrees on which stand the islands and land you have found" (Pérez de Tudela y Bueso et al. 1994, 1:488–490). On the role that Fray Antonio de Marchena and the monastery of La Rábida played during Columbus's years in Spain, see Morison 1942 1:108–110; Ballesteros Beretta 1945, 1:400–413; Manzano Manzano 1964, 26–33, 60–63, and 228–240; and Taviani 1985a, 168–173 and 433–440.
12. Crucial discussions on the subject of Roger Bacon's treatment of place, especially as concerns his geography, are Hackett 1997; and Woodward and Howe 1997. Unfortunately, I have scant information about the diffusion of Roger Bacon's geography in Spain. We know thanks to Little 1914, 382, that a thirteenth-century manuscript of *Opus maius* IV does survives in the library of the Monasterio de El Escorial in Madrid (Escorial, g.iii.17).
13. Geminos, *Introduction aux phénomènes* 16.21–38 (1975). This work was translated into Latin by Gerard of Cremona in the twelfth century.

14. See Ptolemy, *Almagest* 2.6 (1998), and Avicenna, *Canon of Medicine* 1.1.3.34 (1930). Schoolmen variously attribute this view to Avicenna's *De animalibus* I, IV, or X. I have found it, elsewhere, in *De animalibus* XII, "Capitulum I, De complexione et humiditatibus" (Avicenna 1508/1961a, 44v–45r; this quote, 45r), which states that the inhabitants of the equator enjoyed a more temperate climate than those toward the tropics, except in those places that were covered by "the mighty sea." The translations of these works came from the school of Toledo: the *Almagest* was translated by Gerard of Cremona in 1175 (Haskins 1924, 95n83); the *Canon*, also by Gerard of Cremona in the late twelfth century (Haskins 1927, 324); and *De animalibus* by Dominic Gondisalvi and John of Seville in the late twelfth century (Haskins 1924, 13).
15. See lecture 13 in Robertus Anglicus's 1271 commentary to *De sphaera* (Thorndike 1949, 236–242); and lectures 11 and 16 in the commentary attributed to Michael Scot, which was written about 1231 (Thorndike 1949, 317–322 and 331–336, resp.). Grosseteste's critique of the theory of the five zones appears specifically in *De natura locorum* (1912c, 66–68), which logically presupposes *De lineis, figuris, et angulis*. See my discussion of *De lineis* below.
16. See Strabo's discussion of Posidonius's *The Ocean* in his *Geography* 2.1.1–2.3.8, esp. 2.3.2 (1917–1932).
17. See chapter 1.
18. Postil 18 to Ailly and Gerson 1480–1483/1990, 12r.
19. Postil 19 to ibid.
20. For an excellent synthesis of the exegetical tradition that located paradise in a temperate place, we have Las Casas's own explanation for why Columbus, upon reaching the waters of the Orinoco delta, believed he was near Eden. See Las Casas, *Historia* 1.5.5.141–145 (1994, 4:1082–1106).
21. Postil 673 to Ailly and Gerson 1480–1483/1990, 78v.
22. Diller 1975, 126–129.
23. Postils 22a and b to Piccolomini 1477/1991, 3v.
24. If Columbus was looking to find Albertus's geographical ideas in this newly printed work, he most surely was disappointed. See Albertus 1890. The mistaken claim that the Albertine volume preserved in the Colombina is *De natura loci* was disseminated by Schneider 1932 on the basis of Gillet 1932.
25. On the relationship between authorship and originality in scholastic thought, see Minnis 1988.
26. On Las Casas's view about the writing of history, see his prologue to *Historia* (1994, 3:327–337).
27. Ibid., 1.1.3.6 (3:371).
28. Ibid., 1.1.3.7 (3:379; emphasis added).
29. Ibid., 1.1.3.6 (3:372).
30. Albertus Magnus, *De natura loci* 1.1 (1980b, 1, lines 6–8).

31. On the circulation of *De natura loci,* see chapter 1, n. 143.
32. Albertus was praised in his time for the scope of his learning as *doctor universalis.* His fame as a natural philosopher among Aristotelians also earned him the title conferred by the Vatican in our own time as "celestial patron saint of those who study the natural sciences" (Weisheipl 1980b, 46–47).
33. Wallace 1978, 96.
34. An indispensable account on translation activity in the twelfth and thirteenth centuries continues to be Haskins (1924 and 1927, 278–302). More recently, see Lindberg 1978a, and 1992, 215–244; and Grant 1996, 18–32. For a list of translations and translators of Aristotle, Pseudo-Aristotle, and commentators of the *corpus aristotelicum,* see Dodd 1982.
35. On the incorporation of Aristotle's *libri naturales* into the arts curriculum at Paris, see Kibre and Siraisi 1978, 130. On the history of the initial prohibition and later acceptance of Aristotle's works at Paris, see Rashdall 1936, 1:354–358; and Leff 1992, 319–325. For the documents concerning the prohibition, expurgation and later inception of Aristotle's works in Paris, see Grant 1974, 42–43.
36. Robert Grosseteste, for instance, had written substantially on Aristotle at Oxford, and Roger Bacon had recently lectured on him at Paris in the 1240s.
37. Wallace 1978, 96 and note. See also Albertus Magnus, *In II Sententiarum* 13.C.a.2 (1894, 27:247).
38. Wallace 1978, 96 and note; and Albertus Magnus, *In II Sententiarum* 13.C.a.2 (1894, 27:247a).
39. In 1255, following decades of opposition from those who considered Aristotle's teachings to pose a threat to orthodoxy, the "three philosophies" were formally incorporated into the new faculty of the arts curriculum at Paris: students were now required to follow a course of study leading from the most basic to the highest domains of knowledge—first, the logical arts (*trivium*), then the mathematical arts (*quadrivium*), and finally the three branches of philosophy (sequentially, natural, moral, and first philosophy)—before they could aspire to degrees in theology, medicine, or law. On the curricula at Paris and Oxford, see Weisheipl 1964 and 1978; on the curricula at Oxford, Paris, Bologna, and Padua, see Kibre and Siraisi 1978.
40. Weisheipl 1980b, 30. See Albertus Magnus, *Physica* 1.1 (1987–1993, 1:1, lines 9–14).
41. Weisheipl 1980b, 30.
42. Among Albertus's paraphrases that do not correspond by title to Aristotle's authentic natural works, one should include the ninth-century astro-geological treatise *De causis proprietatum elementorum,* which Albertus considered a complement to *De natura loci;* some of the *parva naturalia* or minor works—including *De nutrimento et nutribili, De intellectu et intelligibili, De somno et vigilia,* and *De spiritu et respiratione;* and the first-century botanical *De vegetabilibus,* now commonly attributed to Nicholas of Damascus (Weisheipl 1980a). See also Albertus Magnus, *Tabula tractatuum parvorum naturalium* (1517).
43. Albertus Magnus, *Physica* 1.1 (1987–1993, 1:1, lines 38–42).

44. Wyckoff 1967, xxviii.

45. Albertus Magnus, *De natura loci* 1.1 (1980b, 2, lines 56–60). The only such fragment Albertus mentions by either Aristotle or Plato is one he later attributes to Aristotle, presumably titled *De natura latitudinis et longitudinis locorum et locatorum* (ibid., 3.1 [1980b, 29]). No such work by Aristotle or spuriously attributed to him is known to exist. On the circulation and influence of Pseudo-Aristotle in the Latin West, see Thorndike 1923, 2:246–278; and Schmitt 1986.

46. Aristotle's God was a thinking divine whose "thinking is a thinking on thinking." See Aristotle, *Metaphysics* 12.9.1074b34 (1995b).

47. Lang 1992, 128–134. These distinctions are established in Albertus Magnus, *Physica* 8.1 (1987–1993, 2:549–581). See particularly ibid., 8.1 (2:575, line 13).

48. Lang 1992, 134. See also Albertus Magnus, *Physica* 8.1 (1987–1993, 2:575, lines 74–81). Albertus's distinction between God's eternity and the perpetuity of motion, as well as his distinction between matter created by God in its first form and matter given second form by nature drew inspiration from hexameral readings of Genesis 1:1, "In the beginning God created earth and heaven," and Genesis 1:2, "And the earth was void and empty, and darkness was upon the face of the deep," resp. See Augustine, *The Literal Meaning of Genesis,* 1.1, 1.4, 1.5, and especially 1.17 (1982): "unformed creation is marked off from formed creation in order that it may not find its end in an unformed state but rather be set aside to be formed later by other created beings of the corporeal world." For the Latin text, see Augustine 1970, 3–5, 7–8, 21–22, and 23–26, resp.; this quote, 25–26. See also *City of God,* 11.4–6. Albertus may have drawn his concept of "first form" from Augustine's "seminal reasons," a term that denoted God's creation of certain things in a state of potentiality that, as nature ran its course, developed into full actuality (Markus 1967, 398–399).

49. One finds this idea clearly stated in Augustine, for instance, in *City of God* 5.11: "The supreme and true God with his Word and Holy Spirit, which three are one, is the one almighty God, the creator and maker of every soul and every body. It is by participation in him that happiness is found by all who are happy in verity and not in vanity. He made man a rational animal, combining soul and body. When man sinned, God did not permit him to go unpunished, nor yet did he abandon him without mercy. To the good and to the evil he gave being, possessed also by stones; germinative life, possessed also by trees; conscious life, possessed also by animals; and intellectual life, possessed also by angels alone. From him comes all limit, all form, all order; from him comes measure, number and weight; from him comes whatever exists in nature, whatever its kind and whatever its worth; from him come seeds of forms and forms of seeds and movements in seeds and forms. He gave also to flesh a source, beauty, health, fruitfulness in propagation, arrangement of limbs and the saving grace of harmony. To the irrational soul also he gave memory, sensation and appetite; to the rational soul he gave in addition mind, intelligence and will. Neither heaven nor earth, neither

angel nor man, not even the inner organs of a tiny and despised animal, not the pinfeather of a bird nor the tiny flower in the meadow nor the leaf on the tree did God leave unprovided with a suitable harmony of parts, a peace, so to speak, between its members. It is impossible to suppose that he would have excluded from the laws of his providence the kingdoms of men and their dominations and servitudes." On nature's role in carrying out divine providence, see also *City of God* 12.5: "Those things in nature that were not granted everlasting being suffer changes for better or for worse as they serve the course of events to which they are subject by the law of the Creator, thereby moving through divine providence toward the end marked out for them on the guiding chart of the universe. Thus not even such decay as brings destruction of changeable and mortal things can make what was cease to be in the sense that what was ordained to be is not in due sequence created out of it." And in *On the Literal Meaning of Genesis* 4.12, Augustine writes: "But the universe will pass away in the twinkling of an eye if God withdraws His ruling hand." For the Latin text, see Augustine 1970, 109.

On the concept of providence in Christian thought, see Gilson 1940, 148–167. For echoes of Plato's thought in Augustine, see Plato, *Laws* 10.903b–c (1997a): "'The supervisor of the universe has arranged everything with an eye to its preservation and excellence, and its individual parts play appropriate active or passive roles according to their various capacities. These parts, down to the smallest details of their active and passive functions, have each been put under the control of ruling powers that have perfected the minutest constituents of the universe.'" See also Plotinus's treatises on "providence," especially Plotinus, *Enneads* 3.2.13 (1962): "We cannot but recognize from what we observe in this universe that some such principle of order prevails throughout the entire of existence—the minutest of things a tributary to the vast total; the marvellous art shown not merely in the mightiest works and sublimest members of the All, but even amid such littleness as one would think Providence must disdain: the varied workmanship of wonder in any and every animal form; the world of vegetation, too; the grace of fruits and even of leaves, the lavishness, the delicacy, the diversity of exquisite bloom: and all this not issuing once, and then to die out, but made ever and ever anew as the Transcendent Beings move variously over this earth."

50. As Lang argues in her study of Albertus's *Physica*, "A conception of physics that treats the physical world as an effect that, when considered properly, reveals its 'higher' cause, is just the conception of physics central to Neoplatonism" (1992, 130). Perhaps the best treatment of this subject is to be found in Deck 1967.

51. Albertus wrote highly influential paraphrases of the famous works now believed to have been written by a Syrian monk in the fifth century who wrote under the name of Dionysius the Areopagite (Pelikan 1987, 21–22). On Pseudo-Dionysius's influence in the Latin West, see Leclerq 1987. Albertus also wrote a paraphrase of the Pseudo-Aristotelian *Liber de causis* (9th century), a

work probably composed by al-Kindī's circle of translators on the basis of Proclus's fifth-century *Elements of Theology.* Albertus closely associated the *Liber de causis* with the Aristotelian corpus even though he knew it was not by Aristotle (Bonin 2001, 3–4). On the method and influence of the *Liber de causis* in the Arabic and Latin philosophical milieus, see Taylor 1986 and Lohr 1986.

52. My account of the sources that directly or indirectly informed Albertus's *De natura loci* is far from exhaustive. For an account of the sources explicitly acknowledged by Albertus or else noted by the editors of the *Editio colonniensis,* see the indices to *De natura loci* (1980b, 219–223), though the list provided in this edition does not itself cover all of Albertus's sources.
53. On the influence of Avicennian Neoplatonism in Europe, see Afnan 1958, 258–290; and Goichon 1969, 73–110.
54. Al-Kindī knew Plotinus directly or through the collection of extracts known to Arabs as the *Theology of Aristotle* (Lindberg 1998, xliv). On the origins and manuscript tradition of the *Theology,* see Zimmermann 1986; and Fenton 1986.
55. I am deeply indebted to Helen S. Lang, who in her reading of the original version of this chapter carefully pointed out the Neoplatonic inflexions in Albertus's theorization of place. In my discussion of the distinctions to be drawn between Aristotle's and Albertus's concepts of nature and place, I am closely following her lead (1992, 97–160).
56. On the subject of Albertus's Neoplatonism, particularly as it concerns Albertus's rewriting of Aristotle's *Physics,* see Lang 1992, 125–160. Lang has argued that Albertus inherited his brand of Neoplatonism in part from Augustine and in part from Avicenna, whose work offered Latin Aristotelians a compromise between Augustinian Neoplatonism and Aristotle's philosophy (1992, 251, note 2). Her argument on Avicenna's influence in the Latin West follows the contribution made by Goichon 1969. For a helpful discussion of Albertus's relation to Neoplatonism, see also Sweeney 1983.
57. Weisheipl 1980a, 565–567; and 1980b, 30–31. On the origin and dating of *De causis proprietatum elementorum,* see Vodraska's bilingual edition, 1969, 58–66.
58. Weisheipl 1980a, 564–569.
59. Aristotle, *Physics* 2.1.192b21–22 (1995i). The following discussion concerning those things that are "by nature" in Aristotle closely follows Lang's explanation on this subject 1992, 23–34 and 98–106.
60. On the distinction between those things that are by nature and those that are brought forth artificially, see Aristotle *Physics* 2.1.192b9–34.
61. Aristotle, *Physics* 2.3.194b16–195a3.
62. Lang 1992, 100; and Aristotle, *Physics* 2.2.194a12.
63. Lang 1992, 100; and Aristotle, *Physics* 2.1.193a30–193b18 and 3.3.202b10–23.
64. Lang 1992, 100; and Aristotle, *Physics* 2.1.193b7–8.

65. Lang 1992, 100; and Aristotle, *Physics* 3.3.202a.
66. Aristotle, *Physics*, 1.9.192a20–25. Lang remarks, "Here we reach the crux of Aristotle's definition of nature as a "source of being moved." In things that are by nature, to be moved means to be caused by another; but it does not mean to be passive. The passive (or middle) infinitive indicates a causal relation in which matter is caused, that is, as potential matter is moved immediately by form as actual; but matter is moved not because it is passive but because it is actively oriented toward proper form as actuality" (1992, 100). See also Aristotle, *Physics* 2.8.199b15–18: "Those things are natural which, by a continuous movement originated from an internal principle, arrive at some end."
67. Lang 1992, 111–112. For Plato's account of the descent of soul into body, see *Phaedrus* 246b–c (1997d), which specifies that body does not "move itself" until it is "taken on" by soul; and *Laws* 10.896a–897c, which reads: "So soul, by virtue of its motions, stirs into movement everything in the heavens and on earth and in the sea. The names of the motions of soul are: wish, reflection, diligence, counsel, opinion true and false, joy and grief, cheerfulness and fear, love and hate. Soul also uses all related or initiating motions which take over the secondary movements of matter and stimulate everything to increase or diminish, separate or combine, with the accompanying heat and cold, heaviness and lightness, roughness and smoothness, white and black, bitter and sweet." For Aristotle's account of the soul, see *On the Soul* 2.1.412a27–29 (1995g): "Soul is an actuality of the first kind of a natural body having life potentially in it"; and, for his explanation, see *On the Soul* 2.1412b10–413a8.
68. See Plato, *Phaedrus* 245a: "Every soul is immortal. That is because whatever is always in motion is immortal, while what moves, and is moved by, something else stops living when it stops moving. So it is only what moves itself that never desists from motion, since it does not leave off being itself. In fact, this self-mover is also the source and spring of motion in everything else that moves; and a source has no beginning." See also Plato, *Laws* 10.896a–c (1997a), where soul is "identical with the original source of the generation and motion of all past, present and future things and their contraries. . . . It has been shown to be the cause of all change and motion in everything." Things moved by others "are never endowed with the power of independent self-movement. . . . Such derived motion will therefore come second . . . being a mere change in matter that quite literally 'has no soul.'"
69. Aristotle, *Physics* 3.5.204b5–21.
70. Ibid., 3.5.205b10–11.
71. Aristotle, *Physics* 4.1.208a27–31. Lang here prefers Edward Hussey's translation of *Physics* III and IV: "because everyone supposes that things that are are somewhere" (1983).
72. Aristotle, *Physics* 3.1.201a10–201b6.
73. Ibid., 2.8.200b12–201a3.

74. Ibid., 8.7.260b17–19.
75. Ibid., 8.7.261a21–23.
76. For Aristotle's explanation of the priority of local motion, see ibid., 8.7.260a20–261a26.
77. Ibid., 4.1.208b9–11.
78. Ibid., 3.5.205b32–35.
79. Ibid., 4.1.208b11–22. The fact that up or down are in relation to center and circumference is later made explicit (ibid., 4.4.212a22–28). In *On the Heavens* 4.4.308a12–17, he will refer to up or down as "away from the centre" or "toward the centre."
80. Lang 1992, 102–103. Lang has pointed out to me that Aristotle's account of place in the *Physics* can be read as a further elaboration of the predicate "where" (Greek *pou;* Latin *ubi*) in his *Categories.*
81. For Hesiod's statement, see *Theogony,* line 116 (1993).
82. Plato, *Timaeus* 52a–b (1997e).
83. Aristotle, *Physics* 4.1.208b26–209a2.
84. Ibid., 4.1.209a6–7: "But the place cannot be body: for if it were there would be two bodies in the same place. / Further, if body has a place and space, clearly so too have surface and the other limits of body; for the same argument will apply to them: where the bounding planes of the water were, there in turn will be those of the air. But when we come to a point we cannot make a distinction between it and its place. Hence if the place of a point is not different from the point, no more will that of any of the others be different, and place will not be something different from each of them." The antecedents for this assertion appear to be in 3.5.205a10–22, where Aristotle finds himself proving why there is no such thing as "infinite body."
85. Place could not be identified with any of the four causes of natural things: matter, form, moving cause, or final cause ("that for the sake of which") (ibid., 4.1.209a20–23). Aristotle does not care to explain why place is neither the moving cause nor the final cause, but he does explain why it is neither matter nor form: since place "contains" body, it is some sort of limit. This raises the question of whether place can be the limit of the containing body—that is, whether this limit is form, or whether as the maximal interval of body it is matter (ibid., 4.2.209b1–10). His answer is that "in so far then as [place] is separable from the thing, it is not the form; and in so far as it contains it, it is different from the matter" (ibid., 4.2.209b22–31).
86. Previously in his argument, on his way to proving that there can be no such thing as an infinite body, Aristotle has stated: "Neither is the whole place larger than what can be filled by the body (and then the body would no longer be infinite), nor is the body larger than the place; for either there would be an empty space or a body whose nature it is to be nowhere" (*Physics* 3.5.205a27–30). On Aristotle's controversial theory of the void, or "place deprived of body," see *Physics,* 4.6–9.

87. Later in his argument, Aristotle states: "when we say that [a thing] is in the air, we do not mean it is in every part of the air, but that it is in the air because of the surface of the air which surrounds it; for if all the air were its place, the place of a thing would not be equal to the thing—which it is supposed to be, and which the primary place in which a thing is actually is" (ibid., 4.4.211a24–28).
88. Ibid., 4.4.211b12–13.
89. Ibid., 4.4.212a3–8.
90. Ibid., 4.4.212a20–21.
91. On the types of motion, see ibid., 8.8.261b29–31. On the "priority" of "circular" motion over "rectilinear" motion, see ibid., 8.8–9.
92. Ibid., 8.8.264b9–19.
93. Ibid., 8.8.261b31–263a3.
94. Aristotle, *On the Heavens* 1.1–3.
95. Ibid., 4.1.308a12–17. On the "absolute" lightness and heaviness of things, see ibid., 4.1.308a29–31 and 4.4.311b14–312a21.
96. Lang 1992, 103–104. For Aristotle's use of the term "inclination" or "tendency to movement," see Aristotle, *On the Heavens* 3.6.305a24–25.
97. Aristotle, *On the Heavens* 4.4.311a16–30. See also Aristotle, *On Generation and Corruption* 2.3.330b31–331a6 (1995e).
98. Aristotle, *On the Heavens* 4.3.310b8–15.
99. Ibid., 4.3.311a1–8.
100. Aristotle, *Physics* 7.1.241b34. For the development of this particular argument, see ibid., 7.1 and particularly 8.4.
101. Ibid., 3.1.201a10–201b6.
102. Ibid., 8.4.255a28–30.
103. Ibid., 7.1.243a32–245b1; and 8.5.256a.
104. Ibid., 7.1.
105. Ibid., 8.5.
106. As Lang explains, "Motion must be eternal, because potency is never neutral to actuality, and actuality never fails to be efficacious; on contact with proper actuality, potency is always moved by that actuality as its definition, end, or perfection" (1992, 131).
107. Aristotle, *Physics* 8.1.252a10–19: "But that which holds by nature and is natural can never be anything disorderly; for nature is everywhere the cause of order. Moreover, there is no ratio in the relation of the infinite to the infinite, whereas order always means ratio. But if we say that there is first a state of rest for an infinite time, and then motion is started at some moment, and that the

fact that it is this rather than a previous moment is of no importance, and that it involves no order, then we can no longer say that it is nature's work; for if anything is of a certain character naturally, it either is so invariably and is not sometimes of this and sometimes of another character (e.g., fire, which travels upwards naturally, does not sometimes do so and sometimes not) or there is a ratio in the variation."

108. Ibid., 8.10. Following Lang, "The identification of potency able to be eternal (i.e. circular motion) and its proper actuality, a first unmoved mover without magnitude, parts, or location, explains why motion in things must be eternal" (1992, 131).

109. Aristotle, *Physics* 8.10.267a21–267b8. See also Aristotle, *On the Heavens* 2.12.292b25–293a11.

110. On the "astrologization" of Aristotle's natural philosophy in the twelfth and thirteenth centuries, see Thorndike 1923, 2:246–278. On the theory of celestial influence among Christian commentators of key passages in Aristotle's *On the Heavens, On Generation and Corruption,* and *Meteorologica,* see North 1986, 45–46; and especially Grant 1994, 569–617. Lemay 1962, 52–63 forcefully argues that it was through Albumasar's influential astrological *Introductorium maius in astronomiam* (translated 1133), which cites this and other key passages in Aristotle's *On the Heavens* and *Meteorologica* as the foundation for astrology, that Latin scholars witnessed for the first time a systematic articulation of Aristotle's natural philosophy. See also North 1986, 52–63. For Albumasar's arguments in favor of astrology, see John of Seville's translation of Albumasar, *Liber introductorii maioris ad scientiam judiciorum astrorum,* Qwal III, Fasl. 1–8 (1995–1996). Albumasar's influence on writers who wished to cite Aristotle in favor of astrology can still be strongly felt, for example, in Francisco Vicente Tornamira's late-sixteenth-century *Chronographia, y Repertorio de los tiempos:* "Albumasar in his *Introductorium maius* states that the science of the stars is the very foundation of medicine, because, according to Aristotle, all superior bodies exert their influence on inferior bodies by means of motion and light. And in *Meteorologica* 1.2, he confirms this by saying that this world is well advised to be mindful of celestial motions and influences, that its virtue may be guided by them" (1585/1998, 14).

111. Aristotle, *On Generation and Corruption* 2.9.335a24–31.

112. Ibid., 2.10.336a13–336b15.

113. Ibid., 2.10.336b16–18.

114. Albertus Magnus, *De natura loci* 1.2 (1980b, 3, lines 22–23).

115. Ibid., 1.1, 1, lines 12–13.

116. This passage is taken from Simplicius's sixth-century commentary on Aristotle's *Physics,* which quotes Iamblichus's otherwise lost commentary to Plato's *Timaeus* (Sambursky 1982, [43]).

117. Roger Bacon would define place in exactly the same terms (*Opus majus* 4.4.5 [1897, 1:138]).

118. Porphyry, *Isagoge* 1.25–2.10 (1966; my translation). In the Latin West, Porphyry's treatise remained closely associated with its commentary by Boethius. For Boethius's commentaries to this passage, see *In Isagogen Porphyrii commenta*, "Editionis primae" 1.13 and "Editionis secundae" 2.3 (1966/1980, 35–37 and 174–178, resp.).

119. For a recent treatment of this debate, see Mayhew 2004. On the roles that Aristotle assigns to "male" and "female" in embryo formation, see Mayhew 2004, chapter 3; Morsink 1979; and Preus 1975, esp. chapter 2.

120. Mayhew 2004, 37–43.

121. Proof of this was the fact that menstrual blood was "akin" to primitive matter. See Aristotle, *Generation of Animals* 1.20.729a29–32 (1995a). On the female's menses as seed, see Mayhew 2004, 30–37.

122. For Aristotle's seminal discussion of the role of male and female in the generation of the embryo, see Aristotle, *Generation of Animals* 1.21.729a29–729b21.

123. Ibid., 1.22.730b20–23.

124. Ibid., 4.1.765b9–15: "But the male and female are distinguished by a certain capacity and incapacity. (For the male is that which can concoct and form and discharge a semen carrying with it the principle of form—by 'principle' I do not mean a material principle out of which comes into being an offspring resembling the parent, but I mean the first moving cause, whether it have power to act as such in the thing itself or in something else—but the female is that which receives semen, but cannot form it or discharge it.)"

125. In his paraphrase to Aristotle's *Physics*, Albertus had already used Aristotle's biological concept of the male's contribution to embryo development in order to describe the role played by movers as causes of natural things (*Physica* 2.2.3 [1987–1993, 1:101, line 86–1:102, line 19]).

126. Aristotle, *Physics* 2.3.194b30–32.

127. Lang 1992, 245. See Albertus Magnus, *Physica* 8.2.4 (1987–1993, 2:593, lines 12–14). This strongly differentiated Albertus's from Bacon's view of the relation of agent to recipient. For the latter, the generation of "species" or power involved bringing forth an active potentiality in passive matter (Bacon, *De multiplicatione specierum* 1.3 [1998a, 46]).

128. As Albertus has previously defined it in his commentary to Aristotle's *Physics*, "Nature is the principle of any [thing] and the cause of motion and rest, in which [thing] it is first *per se* and not by accident" (*Physica* 2.1.3 [1987–1993, 1:79, lines 57–58). Or, as Albertus later states, simplifying his definition, "nature is a principle and cause" (ibid., 2.1.3 [1:79, line 68]). Nature, for Albertus, is certainly *in* the thing, but because he associates nature primarily with movers, nature is *in* the thing in the sense that it operates *on* the thing.

129. Albertus Magnus, *De natura loci* 1.1 (1980b, 1, lines 13–18).
130. Ibid., 1.1 (1, lines 18–20; emphasis added).
131. On Albertus's concept of emanation, see Bonin 2001, 15–21. In his *Liber de causis et processu universitatis a prima causa* (the paraphrase he wrote to the Proclian *Liber de causis* sometime between 1264 and 1271), Albertus refers to this flow as something that leaves the source of the flow undiminished, just as the sun remains undiminished by its radiation (Bonin 2001, 16). See also McCullough 1980, esp. 147. For Albertus's discussion, see *De causis et processu universitatis a prima causa* 1.4 (1993, 42–58). As he writes, "Flux is, simply speaking, an emanation of form from the first source" (ibid., 1.4.1 [43, lines 1–3]).
132. Albertus Magnus, *De natura loci* 1.1 (1980b, 1, lines 21–22).
133. Ibid., 1.1 (1, lines 24–26).
134. Ibid., 1.2 (4, lines 10–19).
135. Ibid., 1.1 (1, lines 29–32).
136. On Albertus's discussion of this finite chain of movers and moved in his commentary to Aristotle's *Physics,* see Lang 1992, 125–160.
137. Albertus Magnus, *De natura loci* 1.1 (1980b, 1, lines 47–52).
138. Ibid., 1.1 (2, lines 71–76).
139. In his paraphrase to the *Physics,* Albertus had already established a distinction between first matter and form (created by God), and second matter and form, imparted to a body by its primary or immediate mover (Lang 1992, 128–139). By his account, it would appear that a body that was potentially transformed and moved by its mover was in some sense the inchoate matter of what it was about to become.
140. Albertus Magnus, *Physica* 8.2.5 (1987–1993, 2:596, lines 45–46). For his argument concerning the self-moving motion of the first mover, see 8.2.5–8.2.9 (2:596–610). See also Lang 1992, 140.
141. Albertus Magnus, *Physica* 8.2.10–11 (1987–1993, 2:610–618).
142. Albertus Magnus, *De natura loci* 1.2 (1980b, 7, lines 13–17).
143. I am largely following Armstrong 1967. For invaluable accounts of Plotinian thought, see Armstrong 1940; and Deck 1967. A useful recent discussion on the ordering of reality in Plotinus can also be found in O'Meara 1999.
144. Armstrong 1967, 236–249. See also Armstrong 1940, 49–64; and Deck 1967, 22–30.
145. Armstrong 1967, 250–258. See also Armstrong 1940, 83–108; and Deck 1967, 64–72. On the question of physical reality, I have also consulted Wagner 1999.
146. Plotinus, *Enneads* 4.4.13 (1962, 297–298).
147. For Plotinus's reference to lower Soul as "the vastly efficacious soul of Nature," see ibid., 4.4.35 (1962, 319). Plotinus refers to the immobility and lifelessness of matter as follows: "For in Matter

we have no mere absence of means or of strength; it is utter destitution—of sense, of virtue, of beauty, of pattern, of Ideal principle, of quality. This is surely ugliness, utter disgracefulness, unredeemed evil" (ibid., 2.4.13 [1962, 117–118]). On the problem of Matter in Plotinus, see Armstrong 1940, 83–97; and Decker 1967, 64–80.

148. Plotinus, *Enneads* 4.3.9 (1962, 268).

149. Albertus Magnus, *De natura loci* 1.1 (1980b, 1, lines 9–10).

150. Ibid., 1.3 (4, lines 26–29).

151. Ibid., 1.4 (4, lines 33–35).

152. Ibid., 1.4 (6, lines 38–44). According to Hossfeld's edition of *De natura loci* (1980b, 6, note to line 38), this statement is drawn from Avicenna's *Sufficientia* 1.2, though I have failed to locate the indicated passage. For relevant passages, see Avicenna, *De celo et mundo* 16 (1508/1961b, 16, 42r–v); and his *Philosophia prima* 9.4–5 (1508/1961c, 104v–105v). Later, Albertus also cites Averroës and Maimonides in support of a similar claim (*De natura loci* 1.4 [1980b, 7, lines 9–13]). According to Hossfeld, Albertus is drawing in these lines from Avicenna's *Sufficientia* I.1 c.2, Averröes's *De generatione et corruptione* 1.2, comm. 50, and Maimonides' *Dux neutrorum* I.1 c.71. I have not yet studied the passages indicated by Hossfeld. But for present purposes, I suggest the following examples from Averroës and Maimonides: Averroës's epitome of the *Metaphysics* (*Compendio de metafisica* 4, comm. 53–54 [1919, 245–257]); and Maimonides' *Guide to the Perplexed* 1.70 and 1.72 (1963, 171–175 and 184–194, resp.).

153. "It is established that the outermost revolution of the heavens is a simple movement and the swiftest of all, and that the movement of all other bodies is composite and relatively slow, for the reason that each is moving on its own circle with the reverse motion to that of the heavens. This at once makes it reasonable that the body which is nearest to that first simple revolution should take the longest time to complete its circle, and that which is farthest from it the shortest, the others taking a longer time the nearer they are and a shorter time the farther away they are. For it is the nearest body which is most strongly influenced, and the most remote, by reason of its distance, which is least affected, the influence on the intermediate bodies varying, as the mathematicians show, with their distance" (Aristotle, *On the Heavens* 2.10.291a33–291b10). For Aristotle's explanation why in practice planetary cycles were not distributed in this way, see ibid., 2.12.

154. *Liber de causis* 23[24].180 (2003, 48).

155. Albertus Magnus, *De natura loci* 1.2 (1980b, 3, lines 48–52; this quote, 3, lines 49–52).

156. Nowhere is this clearer, perhaps, than in Aristotle's discussion in *On the Soul* II and III regarding the increasingly higher potentialities of besouled bodies; or than in his celebrated system for classifying animals in *Generation of Animals* II.

157. Aristotle, *On the Heavens* 2.12.292b17–21.

158. As Aristotle explains it, *aither* was so called for the fact that "it "runs always" for an eternity of time" (ibid., 1.3.270b20–24).
159. Ibid., 2.12.292b21–24.
160. Plotinus, *Enneads* 5.2.2 (1962, 381).
161. Ibid., 3.3.5 (182).
162. Macrobius, *Commentary on the Dream of Scipio* 1.14.15 (1990, 145). For the Latin text, see Macrobius 2003, 1:80. On Macrobius's use of this imagery, see Lovejoy 1964, 63. Macrobius may owe this image to a passage in Plotinus describing the Soul's relation to animate bodies: "In so far as any bodies are Animates, the Soul has given itself to each of the separate material masses; or rather it appears to be present in the bodies by the fact that it shines into them: it makes them living beings not by merging into body but by giving forth, without any change in itself, images or likenesses of itself like one face caught by many mirrors" (*Enneads* 1.1.8 [1962, 26]).
163. Macrobius, *Commentary* 1.22.5–6 (1990, 182). For the Latin text, see Macrobius 2003, 1:131–132.
164. Plotinus, *Enneads* 2.4.16 (1962, 117–118).
165. Lovejoy 1964, 101.
166. I have consulted Robert Grosseteste's translation of Pseudo-Dionysius, *De divinibus nominibus* (1937b, 1:247–248); all translations from this work are my own.
167. John of Damascus, *On the Orthodox Faith* 1.13 (1958, 197). For Burgundio's twelfth-century translation, see John of Damascus 1955, 56–57.
168. Plato, *Laws* 10.896c.
169. See chapter 1.
170. For my discussion of the metaphysics of light, I am largely indebted to Lindberg's treatment of the subject in his explanation of Bacon's theory of the "multiplication of species" (1998, xxxv–liii). For other useful treatments of this subject, see Bruyne 1998, 2:16–29; Crombie 1953, 128–134; and Hamilton 1974, 8–45. Baeumker 1908, 357–379, is often cited as a seminal treatment of this subject. On Albertus's metaphysics of light, see Sweeney 1983, 193–201.
171. Albertus Magnus, *De natura loci* 1.4 (1980b, 7, lines 24–25).
172. Augustine, *The Literal Meaning of Genesis* 1.17.32–35 (1982). For the Latin text, see Augustine 1970, 23–26.
173. Proclus asks us to conceive of the relation between light and the material cosmos as "'two spheres, one made of light and the other of many bodies, both equal in volume. One of them is placed at the center of the world and the other is immersed in the first sphere. The whole universe will thus be seen moving in its place in the immobile light" (Sambursky 1982, [67]).
174. Grosseteste 1912b, 51–52; all translations from this work are my own. For a useful discussion of Grosseteste's argument in this treatise, see Crombie 1953, 104–109.

175. Grosseteste 1912b, 55–56.

176. Ibid., 56. On the soul as form and perfection of the body, Lang (1992) points to the following sources: Plotinus, *Enneads* 4.4.20 (1962, 302–303); Augustine, *The Literal Meaning of Genesis* 7.15, 7.19, 7.21 (1982; for Latin text, 1970, 213, 214–215, and 217–219, resp.); and Avicenna's *Sufficientia* 2.4 (1508/1961d, 27r, e).

177. Plotinus, *Enneads* 1.1.8 (1962, 26; emphasis added).

178. Crombie 1953, 109.

179. Albertus Magnus, *De natura loci* 1.4 (1980b, 7, lines 32–39).

180. See al-Kindī's *De radiis* 1 in Alverny and Hudry 1974, 215–218.

181. Albertus Magnus, *De natura loci* 1.4 (1980b, 7, lines 44–49).

182. On the subject of al-Kindī's sources, see Alverny and Hudry 1974, 155–167. The authors believe that this treatise may be an adaptation of a Greek treatise on "universal sympathy," and they identify the following sources: the ninth-century *Theology of Aristotle* (largely based on Plotinus's *Enneads* IV–VI); the *Letter to Annebo* attributed to Porphyry; Iamblichus's *On the Mysteries of the Egyptians;* and Proclus's *Elements of Theology.* Only the twelfth-century Latin translation of *De radiis* is known, not the Arabic original. According to Pingree 1987, 73, the oldest known copy in England was produced about 1240, and its presence cannot be established in Paris until several decades later. Its visible influence on Albertus's *De natura loci* may mean that Albertus had become acquainted with this treatise in Paris before founding his *studium* in Cologne.

183. I owe this insight to Richard Lemay. For the account of creation attributed to Zoroaster (about 628–about 551 BCE), I have consulted the Iranian version of the cosmogonic *Bundahišn*. See *Zand-Ākāsīh* 1.50 (1956, 17).

184. Notopoulos 1944a, 165. On the uses of light metaphors in Greece, see also Tarrant 1960.

185. Bouché-Leclercq 1899, 247–251.

186. Notopoulos 1944b, 223.

187. Armstrong 1940, 54.

188. For a useful explanation of the use of symbolism in Plato, see Notopoulos 1944a, 163–164. This conscious strategy in Plato is what one of Notopoulos's sources calls, with reference to the function of myth in the *Timaeus,* "a treatment of the eternal things by the symbolism of the passing" (Demos 1936, 538).

189. Plato, *Republic* 6.508b (1991).

190. Armstrong 1940, 52 also relates Plotinus's concept of emanation to the Stoic tradition attributed to Posidonius, which gave the name of *pneuma* or *hēgemonikon* to a fiery breath coming from and returning to the sun. Posidonius was cited in Antiquity as having stated that God was "intelligent pneuma" (Kidd 1999, 159–160).

191. Plato, *Republic* 6.508b–c.

192. Lindberg 1998, xli. Lang cites the following instance from Augustine's theological *De trinitate* 12.15 (*The Trinity* 1963, 366): "The nature of the intellectual mind is so formed as to see those things which, according to the disposition of the Creator, are subjoined to intelligible things in the natural order, in a sort of incorporeal light of its own kind, as the eye of the flesh sees the things that lie about it in this corporeal light, of which light it is made to be receptive and to which it is adapted." For the Latin text, see Augustine, *De trinitate libri XV* 12.[15 24].12–17 (1968, 1:378). A helpful discussion of Augustine's doctrine appears in Markus 1967, 362–373.

193. Plato, *Republic* 6.509b.

194. Plotinus, *Enneads* 4.3.9 (1962, 268): "While the Soul (as an eternal, a Divine Being) is at rest—in rest firmly based on Repose, the Absolute—yet, as we may put it, that huge illumination of the Supreme pouring outwards comes at last to the extreme bourne of its light and dwindles to darkness; this darkness now lying there beneath, the Soul sees and by seeing brings to shape; for in the law of things this ultimate depth, neighbouring with soul, may not go void of whatsoever degree of the Reason-Principle it can absorb, the dimmed reason of reality at its faintest."

195. On Plotinus's recognition of the inadequacy of such a metaphor, and on his attempts to correct himself, see Armstrong 1940, 59–61.

196. Plotinus, *Enneads* 5.1.6 (1962, 374).

197. Ibid., 6.4.7 (524): "Imagine a small luminous mass serving as centre to a transparent sphere, so that the light from within shows upon the entire outer surface, otherwise unlit: we surely agree that the inner core of light, intact and immobile, reaches over the entire outer extension; the single light of that small centre illuminates the whole field. The diffused light is not due to any bodily magnitude of that central point which illuminates not as body but as body lit, that is by another kind of power than corporeal quality: let us then abstract the corporeal mass, retaining the light as power: we can no longer speak of the light in any particular spot; it is equally diffused within and throughout the entire sphere."

198. Ibid., 4.4.33 (316).

199. Ibid., 4.4.35 (319).

200. Ibid., 4.4.35 (319).

201. Pseudo-Dionysius, *De divinibus nominibus* 4 (1937b, 1:146–147).

202. Pseudo-Dionysius, *De caelesti hierarchia* 1 (1937a, 2:736).

203. John of Damascus, *On the Orthodox Faith* 1.14 (1958, 202). For Burgundio's translation, see John of Damascus 1955, 64–65.

204. John of Damascus, *On the Orthodox Faith* 2.7 (1958, 216). For Burgundio's translation, see John of Damascus 1955, 85.

205. *Book of Causes* 5[6].57 (1984, 24). For the Latin text, see *Liber de causis* 2003, 14.

206. For al-Kindī's bearing on Grosseteste and Bacon, see Lindberg 1998, xliv–liii. One of the earliest references to al-Kindī's connection with the theories of diversity espoused by Grosseteste and Bacon may be Thorndike 1923, 1:646 and 2:443.

207. An early treatment of al-Kindī's *De radiis* can be found in Thorndike 1923, 1:643–646. For useful studies, see Alverny and Hudry 1974, and, more recently, Travaglia 1999. Thorndike rightly traces this magical thought to Plotinus's *Enneads* (Thorndike 1923, 2:443). See, in particular, the following tractates in the *Enneads* IV 4 and IV 5: "Problems of the Soul (II)" and Problems of the Soul (III)" (1962, 288–388).

208. Al-Kindī, *De radiis* 2, in Alverny and Hudry 1974, 219. All translations from this work are by Robert Mac Donald.

209. Ibid., 219–220.

210. Ibid., 220.

211. For Grosseteste, Lindberg (1998, xxxiii–xxxiv) cites such works as Euclid's *Optica* and *Catoptrica*, Aristotle's *Meteorologica*, al-Kindī's *De aspectibus*, and, possibly, Ptolemy's *Optica* (see also Grant 1974, 385). For Bacon, whose spatialized optics is by far the most elaborate, Lindberg cites such sources as Ptolemy's *Optica*, Alhazen's *Perspectiva* and *De speculis comburentibus*, al-Kindī's *De aspectibus*, Euclid's *Elements*, *De speculis*, and *De aspectibus*, an anonymous *De speculis*, and Theodosius's *De speris*, among others.

212. Al-Kindī, *De radiis* 2, in Alverny and Hudry 1974, 219.

213. Ibid., 220–221.

214. Ibid., 221.

215. Ibid., 220.

216. Ibid., 221.

217. Grosseteste 1912c, 65, lines 27–29; my translation.

218. Grosseteste 1912a, 61, lines 11–27. For an English version and study of *De natura locorum* and *De lineis*, see Eastwood 1964.

219. Grosseteste 1912a, 61, line 28 through 62, line 21.

220. Ibid., 62, line 22 through 63, line 29. Grosseteste also described the complex of rays radiating from a single body to its object as pyramidal in shape: any given point on an object's surface was the apex of a pyramid whose base was the surface of the radiating body—a concept that would also play an important role in Bacon's philosophy of nature. See ibid., 64, lines 13–31.

221. Al-Kindī, *De radiis* 2, in Alverny and Hudry 1974, 223.

222. Plotinus, *Enneads* 2.3.7 (1962, 96).

223. This tradition was founded on a passage in Saint Paul's epistle, Romans 1:20: "the invisible things of Him, from the Creation of the World, are clearly seen, being understood by the things that are made." On the basis of this passage, the church fathers (Saints Basil, Ambrose, and Augustine) inaugurated a tradition that considered the natural world to be a legible text: the literal meaning of this text was evinced by means of natural philosophy, and its spiritual meaning by that of Christian theology. See, for instance, Curtius 1953, 319–326; Gilson 1940, 364–382; and Glacken 1990, 202–208.
224. See Postil 561 to d'Ailly's *Tractatus de legibus et sectis contra superstitiosos astronomos* (1410), in Ailly and Gerson 1480–1483/1990, 51r.
225. See Gerson's eighth proposition in ibid., 159v; and his tenth proposition in ibid., 160r.
226. Albertus Magnus, *De natura loci* 1.5 (1980b, 8, lines 46–48).
227. Ibid., 1.5 (8, lines 48–51).
228. Ibid., 1.5 (8, lines 51–56).
229. Ibid., 1.5 (8, lines 56–58).
230. Ibid., 1.5 (8, lines 60–62).
231. Ibid., 1.5 (8, lines 71–75). This passage may derive from Boethius's commentary to the passage in the *Isagoge* where Porphyry calls place a principle of generation *quemadmodum pater*. See Boethius, *In Isagogen Porphyrii commenta*, "Editionis primae" 1.3 and "Editionis secundae" 2.3 (1966, 35–37 and 174–178, resp.).
232. Albertus Magnus, *De natura loci* 1.5 (1980b, 8, lines 78–82).
233. Ibid., 1.5 (8, lines 82–86).
234. Ibid., 1.5 (9, lines 4–7).
235. Ibid., 1.5 (9, lines 12–17).
236. Ibid., 1.5 (9, lines 31–33).
237. Ibid., 1.5 (9, lines 38–40).
238. Ptolemy, *Tetrabiblos* 1.3 (1980).
239. For Albertus's discussion of latitude and longitude, see *De natura loci* 1.9–10 (1980b, 15–18).
240. Ibid., 1.9 (16, lines 86–89).
241. The *Nicomachean Ethics* had seen two partial translations since the twelfth century, being translated in full by Grosseteste between 1246 and 1247 (Dodd 1982, 77). The *Economics* saw an anonymous translation in the late thirteenth century, and the *Politics* was translated by William of Moerbeke about 1260 (Dodd 1982, 78).
242. See my discussion of the theory of the five zones in chapter 1.
243. Albertus Magnus, *De natura loci* 1.6 (1980b, 9, lines 49–54; this quote, lines 50–54).
244. Ibid., 1.6 (9, lines 70–73).

245. Ibid., 1.6 (9, lines 77–81). This claim may be based on Proposition 32 of Pseudo-Euclid's *Catoptrica*, which discusses the combustive effect of sunrays converging on the focus of concave mirrors: "Fire is kindled by concave mirrors that face the sun" (Takahashi 1992, 194–199). Bacon examines precisely this problem in *De speculis comburentibus* (1998b).
246. Albertus Magnus, *De natura loci* 1.6 (1980b, 9, line 81 through 10, line 1). For Albertus's full discussion of the theory of the five zones, see ibid., 1.6 (9, line 49 through 11, line 22).
247. Ibid., 1.7 (13, lines 19–51). See also Albertus Magnus, *De caelo et mundo* 1.2.4.8 (1980a, 193, lines 19 ff).
248. Albertus Magnus, *De natura loci* 1.7 (1980b, 13, lines 48–50).
249. Ibid., 1.7 (13, lines 52–67). Albertus's immediate source was Geminos, *Introduction* 16.26–30 (1975, 81–83). See also my discussion of closed and open geographical models in chapter 2.
250. Albertus Magnus, *De natura loci* 1.7 (1980b, 13, line 68 through 14, line 75).
251. Ibid., 1.6 (12, lines 28–31).
252. Ibid., 1.6 (11, lines 24–37).
253. Ibid., 1.6 (11, lines 38–44; emphasis added).
254. Ibid., 1.6 (11, lines 45–50).
255. Ibid., 1.6 (11, lines 51–56).
256. Ibid., 1.6 (11, lines 60–62).
257. Ibid., 1.6 (11, lines 66–74).
258. Ibid., 1.6 (11, lines 81–84, and 12, line 7, resp.).
259. Avicenna's popular *Canon* refers to complexion, or temperament, thus: "Temperament is that quality which results from the mutual interaction and interpassion of the four contrary primary qualities residing within the (imponderable) elements. . . . These elements are so minutely intermingled as each to lie in a very intimate relationship to one another. Their opposite powers alternately conquer and become conquered until a state of equilibrium is reached which is uniform throughout the whole. It is this outcome which is called "the temperament'" (1930, 57). On the early history of this idea, see Leicester 1974, 4–24; Lloyd 1964; Siraisi 1990, 101–104; and Grmek 1998.
260. Albertus Magnus, *De natura loci* 2.3 (1980b, 26, lines 48–49).
261. Ibid., 2.3 (26, lines 49–53).
262. Ibid.
263. Ibid., 2.3 (26, lines 56–57, and 27, lines 5–6).
264. Ibid., 2.3 (26, lines 57–60).
265. Ibid., 2.3 (26, lines 62–68).
266. I owe this explanation to Professor Kristine Haugen.
267. Albertus Magnus, *De natura loci* 2.3 (1980b, 26, lines 71–74).

268. Avicenna, *Canon* 2.11.319 (1930, 205).
269. Albertus Magnus, *De natura loci* 2.3 (1980b, 26, lines 74–78).
270. Ibid., 2.3 (26, lines 85–92).
271. Ibid., 2.3 (27, lines 2–3).
272. Ibid., 2.3 (27, lines 15–17).
273. Ibid., 2.3 (27, lines 40–41).
274. Ibid., 2.3 (27, lines 44–47).
275. Ibid., 2.3 (27, lines 52–56).
276. Ibid., 2.3 (27, lines 62–74).
277. Albertus would later be acquainted with the version of Aristotle's *Politics* first rendered into Latin by William of Moerbeke in about 1260 (Dodd 1982, 78).
278. Albertus Magnus, *Politicorum libri VIII* 7.5 (1891, 661; emphasis added). Both translations from this work are by Robert Mac Donald.
279. Ibid., 7.5 (1891, 661–662).
280. Albertus Magnus, *De natura loci* 1.11 (1980b, 19, lines 61–68).
281. Aristotle, *Nichomachean Ethics* 2.6.1106b35–1107a1 (1995d).
282. Ibid., 2.8.1108b10–25.
283. Aristotle, *Politics* 1.2.1252a24–31 (1995j).
284. Ibid., 1.2.1252a31–1252b1.
285. On Aristotle's authority, the male was in general "by nature fitter for command than the female" (ibid., 1.12.1259b3).
286. Ibid., 1.2.1252b1–9.
287. Ibid., 1.5.1254a29–31.
288. Ibid., 1.5.1254a31–33.
289. Ibid., 1.5.1254a33–35.
290. Ibid., 1.5.1254a35–1254b2.
291. Ibid., 1254b21–25; emphasis added.
292. As Aristotle has explained in the *Nicomachean Ethics* 7.5.1149a5–12, "Every excessive state of folly, of cowardice, of self-indulgence, or of bad temper, is either brutish or morbid; the man who is by nature apt to fear everything, even the squeak of the mouse, is cowardly with a brutish cowardice, while the man who feared a weasel did so in consequence of a disease; and of foolish people those who by nature are thoughtless and live by their senses alone are brutish, like some races of the distant foreigners, while those who are so as a result of disease (e.g. of epilepsy) or of madness are morbid."
293. Carro 1951, 292n45.

294. Las Casas, *Historia* 3.2.1.9 (1994, 3:1785).
295. Sepúlveda 1984, 22.
296. Ibid., 24.
297. Ibid., 33–34.
298. Ibid., 35.
299. Ibid., 35.
300. Ibid., 36.
301. Aristotle's debt in this passage of the *Politics* to Plato's discussion of the soul in the *Republic* was kindly pointed out to me by Professor Alfonso Gómez-Lobo.
302. Plato, *Republic* 4.427c–445e. The terms *logismos, thumos,* and *epithumia* are usefully discussed by Howland 1993, 40. On the subject of Plato's partition of the soul, I have consulted Irwin 1995, 203–222; van Peursen 1966, 34–49; and Murphy 1951, 24–44.
303. Plato, *Republic* 9.588b–592b. See Howland 1993, 152–155; and van Peursen 1966, 40–41.
304. Postil 49 to Ailly and Gerson 1480–1483/1990, 16r.
305. Ailly and Gerson 1480–1483/1990, 151v.
306. Postil 866 to ibid.
307. Ailly and Gerson 1480–1483/1990, 151v.
308. Problem 8 in Pseudo-Aristotle, *Problems* 14.8.909b9–15 (1995b).
309. Aristotle, *Parts of Animals* 2.2.647b31–648a11 (1995h).
310. Postil 867 to Ailly and Gerson 1480–1483/1990, 151v.
311. Ailly and Gerson 1480–1483/1990, 151v.
312. Postil 868 to ibid.
313. For Haly's commentary to the geopolitical model in Ptolemy's *Tetrabiblos* 2.2, see Ptolemy, *Liber quadripartiti Ptholemei* (1493, 31r).
314. Ailly and Gerson 1480–1483/1990, 150v.
315. See Postil 869 to ibid.
316. Postil 870 to Ailly and Gerson 1480–1483/1990, 151r.

5 *En la Parte del Sol:* Iberia's Invention of the Afro-Indian Tropics, 1434–1494

1. For Las Casas's account of the "destruction" of Africa, see *Historia de las Indias* 1.2.1.17–1.2.2.27 (1994, 1:429–493).
2. Pérez Embid 1948, 39–41.
3. Goñi Gastambide 1958, 49–52. The "verticality" of this process has been most fruitfully analyzed in recent years by Adão da Fonseca 1993 and 1999. Literature on Europe's shift from the

Mediterranean to the Atlantic is vast, but I have found a highly useful comparative analysis of this process in Fernández-Armesto 1987, which should be read in conjunction with the historian's biography of the Discoverer (1991) and his most recent history of exploration (2006, esp. 109–152).

4. For instance, Weckmann, in his classical study on Alexander's donations to Fernando and Isabela of the territories newly discovered by Columbus, underscores the long-standing tradition that assigned to the papacy jurisdiction over all western islands (Weckmann 1949).
5. As Russell notes (2000, 113–118), Henry's inspiration to round Cape Bojador to the elusive Guinea may have come from earlier sources like the anonymous late-thirteenth-century heraldic itinerary *Libro del cognosçimiento de todos los rregnos e tierras et señorios que son por el mundo* and *Le Canarien*, the earliest account of Béthencourt and La Salle's expedition to the Canaries, composed shortly after 1402 by Béthencourt's chaplains, Pierre Bontier and Jean Le Verrier. See *Libro del cognosçimiento* 1999, 48–57; and Béthencourt, *Le Canarien* 58, 66, 84 (1874, 101–103, 118–120, and 165–169, resp.).
6. Russell 2000, 120–127, argues that the link between Henry and India does not mean that Henry wished to break into the Indian Ocean, only that he wished to reach this Ethiopian ruler in order to strike an alliance to crush the Muslims.
7. Rumeu de Armas 1996, 60.
8. On Columbus's references to Guinea, see Gil 1992a, 43–51.
9. See Pérez Embid 1948, 41–46; and Rumeu de Armas 1992, 16–20; 1996, 81–82.
10. See chapter 2.
11. Pérez Embid 1948, 46–48.
12. Cortesão 1975–1978, 1:275–277.
13. *Monumenta henricina* 1960–1974, 1:178–186; all translations from this collection are my own.
14. Pérez Embid 1948, 58–59.
15. On the Isles of the Blest, see Strabo, *Geography* 1.1.5 and 3.2.13 (1917–1932). Pliny, *Natural History* 6.37 (1938–1963) calls them *Fortunatae* and provides an account of each of them.
16. Pérez Embid 1948, 65–68.
17. Ibid., 69–72.
18. *Monumenta henricina* 1960–1974, 1:201–206.
19. Pérez Embid 1948, 73–81. See *Monumenta henricina* 1960–1974, 1:207–214.
20. See *Vinee Domini Sabahot* (11 December 1344), in *Monumenta henricina* 1960–1974, 1:214–216. In a bull written only a month later (*Desiderabiliter affectantes,* 11 December 1344), Clement VI further asked the sovereigns of Portugal, Castile, and Aragon to provide logistical support for Don Luis's projected campaign in the Canaries (ibid., 1:216–217). Evidently anticipating Portugal's negative reaction to his donation of the Canaries, Clement also expedited three other bulls renewing for

another two years the commitment of a tenth of the church's revenues in Portugal to the crusade against Benamarim or Fez (ibid., 1960–1974, 1:217–221, 221–225, and 225–228, resp.).

21. Ibid., 1:228–229 and 229–230, resp.
22. Ibid., 1:229 and 230: *insula[e] a Christi fide et christianorum dominio aliena[e].*
23. Pérez Embid 1948, 79.
24. *Monumenta henricina* 1960–1974, 1:230–234, esp. 232.
25. Ibid., 1:234–235.
26. Pérez Embid 1948, 81–101.
27. On the military campaign waged in the Canaries, see ibid., 101–104. On the takeover of Ceuta, see Russell's biography of Henry the Navigator, whose leading role in Ceuta should be read as an immediate precedent to his later exploration of Atlantic Africa (2000, 29–58).
28. *Monumenta henricina* 1960–1974, 1:293–296 and 296–298, resp. I am here following Doc. 123 (1:294).
29. Las Casas, *Historia* 1.2.1.17 (1994, 1:431).
30. *Monumenta henricina* 1960–1974, 2:282–286 and 287–289, resp.
31. See Pérez Embid 1948, 11–214.
32. On Malocello's presence in Lanzarote, see ibid., 58–59; and on the Vivaldi brothers, ibid., 51–58.
33. Grosjean 1978, 53; and Russell 2000, 118.
34. Pérez Embid 1948, 105–107.
35. As Russell 2000, 111–113 insists, the "Cape Bojador" that Henry thought his men had rounded in 1434 was probably not the farther cape by that name now standing at a lower latitude on the African mainland in Western Sahara (26° N), but rather Cape Juby in modern-day Morocco (27° 57′ N), which does stand east of Hierro and Gran Canaria (27° 44′ N and 27° 55′ N, resp.) and which matches the features described by early sources.
36. Beneath the Canaries, the Catalan Atlas does depict the 1346 voyage of Jacme Ferrer to *riu dlor* (Río de Oro), which would have taken Ferrer much farther south than Bojador, but the site of this river is not charted on the map. On Ferrer's voyage, see Pérez Embid 1948, 105–107.
37. Barros, *Ásia* 1.4 (1552/1932, 20).
38. Zurara, *Crónica dos feitos notáveis* 7 (1978–1981, 1:43; emphasis added).
39. The image we have at our disposal for the portolan on the so-called Columbus Chart (fig. 3.8) is not sufficiently detailed to show a close-up of the Canaries and Bojador. For useful examples, see Pedro Reinel's portolan (about 1490), the fragment of a Portuguese portolan from the fifteenth century, and Grazioso Benincasa's portolan (1462), reproduced by Russell 2000 (illustrations 1, 5, and 7, respectively, between pp. 224 and 225).

40. Fernández de Oviedo y Valdés, *La historia general y natural de las Indias* 2.5 (1535, viv).
41. Las Casas, *Historia de las Indias* 1.2.1.20 (1994, 1:452).
42. Zurara, *Crónica dos feitos notáveis* 8 (1978–1981, 1:47–49); Barros, *Ásia* 1.2 (1552/1932, 14).
43. Barros, *Ásia* 1.4 (1552/1932, 20–21; emphasis added).
44. Henry's envoys thought they had chanced upon Río de Oro (Gold River), what had long been thought by Mediterranean and Arab geographers to be a western leg of the Nile River emptying out onto the Atlantic (Russell 2000, 131–132).
45. Zurara, *Crónica dos feitos notáveis* 9 (1978–1981); and Barros, *Ásia* 1.4 (1552/1932, 20–23). A document expedited by the Portuguese regent Dom Pedro in the name of his young nephew Afonso V in 1443 specifies the number of expeditions sent by Prince Henry to round Cape Bojador as fifteen in total (*Monumenta henricina* 1960–1974, 8:107–108).
46. Barros, *Ásia* 1.4 (1552/1932, 22). See also Zurara, *Crónica dos feitos notáveis* 9 (1978–1981, 1:52–53).
47. Zurara, *Crónica dos feitos notáveis* 10 (1978–1981, 1:55–58); and Barros, *Ásia* 1.5 (1552/1932, 23–24).
48. Las Casas, *Historia* 1.2.1.23 (1994, 1:467).
49. Zurara, *Crónica dos feitos notáveis* 11 (1978–1981, 1:59). On the events that distracted Prince Henry from resuming his exploration of the Saharan coastline, see Russell 2000, 135–194. On occasion of the rounding of Cape Bojador, King Duarte requested a papal bull at the Council of Florence (1436), which was issued by Pope Eugenius IV as *Rex regum* in Bologna (8 September 1436). See *Monumenta henricina* 1960–1974, 5:270–275. This bull largely reiterated the terms of the bulls expedited on occasion of the takeover of Ceuta. See Las Casas, note 1 to *Historia* 1.2.2.24 (1994, 1:745).
50. García-Gallo 1987, 335–336.
51. Zurara, *Crónica dos feitos notáveis* 12 (1978–1981, 62–64); and Barros, *Ásia* 1.6 (1552/1932, 1.6, 25–29). On Prince Henry and the slave trade, see Russell 2000, 239–263.
52. Las Casas, *Historia* 1.2.2.23 (1994, 1:468).
53. Ibid., 1.2.2.24 (1994, 1:470).
54. Pérez de Tudela y Bueso et al. 1994, 1:146–147.
55. Ibid., 1:147.
56. Las Casas, *Historia* 1.3.2.46 (1994, 1:589).
57. Barros, *Ásia* 1.7 (1932, 29).
58. See *Illius qui se pro diuini* (Florence, 19 December 1442), in *Monumenta henricina* 1960–1974, 7:336–337; and *Rex regum* (Florence, 5 January 1443), in ibid., 7:344–350. See note 1 to Las Casas, *Historia* 1.2.2.24 (1994, 1:745).
59. *Monumenta henricina* 1960–1974, 8:107–108.
60. Ibid., 8:107.

61. On Prince Henry's attempts to wrest the Canaries from Castile, see Russell 2000, 264–290.
62. Pérez Embid 1948, 158–165; and Rumeu de Armas 1996, 1:128–131.
63. Adão da Fonseca and Ruiz Asencio 1995, 53–57; this quote, 55.
64. Ibid., 56.
65. Ibid., 63–66; this quote, 64.
66. Castile did not succeed in wresting full control of the archipelago from its native peoples until 1496, when it finally subdued Tenerife.
67. See Adão da Fonseca and Ruiz Asencio, 68–92; this quote, 88; emphasis added.
68. Ibid., 101–113; this quote, 105.
69. Ibid., 105.
70. Pérez de Tudela y Bueso et al. 1994, 1:62–63.
71. Ibid., 1:78–81.
72. See the entry for 4 March 1493 in Columbus's *Diario,* in ibid., 1:231–232.
73. See Pina 1950, 184; Resende 1973, 241; and Barros, *Ásia* 3.11 (1552/1932, 111).
74. See the entry for 8 March 1493 in *Diario* (Pérez de Tudela y Bueso et al. 1994, 1:233).
75. João II had rejected Columbus's plan twice before: once in 1483 or 1484, during Columbus's years in Portugal; and another in 1488, when Columbus, considering that negotiations with Fernando and Isabel were heading nowhere, once again approached João II, who invited him once again to Lisbon. The renewed negotiations evidently came to a crash with the return of Bartholomeu Dias from the Cape of Good Hope, which meant that circumnavigating Africa to reach India now seemed assured.
76. See Pina 1950, 184–185; and Barros, *Ásia* 3.11 (1932, 111–112); all translations from Pina 1950 are my own.
77. Ibid., 3.11 (111).
78. Pérez de Tudela y Bueso et al. 1994, 1:234; emphasis added.
79. On the chronology of the events that followed Columbus's return to Spain and that concerned the drafting of Alexander VI's bulls of donation, I am closely following the noted legal historian García-Gallo (1987, 381–389). García-Gallo not only provides a brilliant interpretation of the diplomatic transactions and documents related to the drafting of these papal bulls, but he has also insisted that the meridian eventually specified in the Treaty of Tordesillas, running pole to pole, was meant not to divide the globe but rather to demarcate the Indies as a geopolitical space claimed by Castile directly *across from*—that is, in the very same general latitudes—as the geopolitical space claimed by Portugal in Guinea (1987, 525–550).
80. Pina 1950, 185.
81. Zurita, *Historia* I, 29, in García-Gallo 1987, 619.

82. Ibid., 615; emphasis added; all translations from García-Gallo 1987 are mine.
83. García-Gallo 1987, 426–427.
84. F. Columbus, *Historie del S. D. Fernando Colombo* 41 (1571/1992, 84v).
85. García-Gallo 1987, 360–362.
86. Pérez de Tudela y Bueso et al. 1994, 1:273–279. This letter to the Catholic Monarchs, which is very similar to the one Columbus addressed to Luis de Santángel announcing the discovery (15 February 1493), was known for a long time to have existed, but it only saw public light for the first time as part of a collection of newly found letters known as *Libro copiador de Cristóbal Colón* (Rumeu de Armas 1989).
87. García-Gallo 1987, 357–359.
88. Pérez de Tudela y Bueso et al. 1994, 1:284–285. The title reserved for Columbus at this point was *nuestro Almirante del mar oceano bisorey e gouernador de las yslas que se han descubierto en las yndias.*
89. Ibid., 1:285–286; this quote, 285.
90. Ibid., 1:312–313, 318, 353–354, 356–357, 358–359, 363, 366–368, 369–372, 378, 380, 381, and 383–384.
91. Ibid., 1:249–267. For an informative account of the diffusion of the letter to Luis de Santángel and of the Latin translation of the similar letter to Gabriel Sánchez (15 February–14 March 1493), see esp. 1:258–267.
92. Ibid., 1:249; emphasis added.
93. Ibid., 1:250.
94. Ibid., 1:254–255.
95. Ibid., 1:255.
96. Ibid., 1:251.
97. Ibid., 1:254.
98. Ibid., 1:252.
99. Ibid.
100. García-Gallo 1987, 381.
101. Zurita, *Historia* I, 25, in García-Gallo 1987, 616.
102. Pérez de Tudela y Bueso et al. 1994, 1:287–288.
103. Ibid., 1:289–290.
104. See García-Gallo's discussion of the right that Christian princes were supposed to have to the subjection of "infidels" (1987, 453–475).
105. Ibid., 455.
106. Ibid., 445–475. The classic treatment of this debate is Muldoon 1979.
107. See Alonso de Cartagena's *Allegationes* in García-Gallo 1987, 566–567.

108. Ibid., 567–572.
109. Ibid., 571.
110. Ibid.
111. Ibid.
112. Ibid.
113. Pérez de Tudela y Bueso et al. 1994, 1:121–122.
114. Ibid., 1:249; emphasis added. The protocol followed by Columbus on this occasion probably included such symbolic acts as treading through the beach on which he had landed, throwing handfuls of sand in the air, and cutting branches from the greenery (García-Gallo 1987, 472–474). On the various protocols followed by European nations to take formal possession of new territories, see Seed 1995.
115. In the entry for 23 December 1492, Columbus records his attempts on Hispaniola's northern coast to decipher what the Indians meant by term *cacique* (chieftain). As Las Casas writes, "the Admiral had been unable until then to understand whether they take it to mean *king* or *governor*" (Pérez de Tudela y Bueso et al. 1994, 1:191–196; emphasis added).
116. Ibid., 1:125.
117. In the entry for 16 October 1492, which describes his arrival on the third island in the Bahamas, Fernandina (probably today's Long Island), Columbus significantly adds to his claim regarding the unity of speech and customs in the islands he has visited so far that the inhabitants of Fernandina "already seem to me to be more docile and affable and more subtle" (*ya me pareçen algun tanto mas domestica gente y de tracto y mas sotiles*) (ibid., 1:128). In the entry for 27 November, he explains that he does not wish to detain himself in every "port" he finds, in part because "I do not know the language, and the people from these lands do not understand me, nor do I, or anyone with me, understand them; and many times I understand the opposite of what I am told by these Indians I bring with me" (ibid., 1:159).
118. García-Gallo 1987, 500. On the pope as notary public, see García-Gallo's citation of Silvio Zavala's *Las instituciones jurídicas del descubrimiento y conquista* (1987, 500n391).
119. García-Gallo 1987, 370–372. See also Pérez de Tudela y Bueso et al. 1994, 1:465–466; this quote, 465.
120. García-Gallo 1987, 501.
121. Ibid., 623–633; this quote, 629.
122. Ibid., 498–500.
123. Ibid., 499 and 499n387. See also *Romanus pontifex* (Adão da Fonseca and Ruiz Asencio 1995, 55–56).
124. García-Gallo 1987, 499.

125. On the points of coincidence between Alexander's donations to Fernando and Isabel and this earlier body of donations to Portugal, see ibid., 431–435; for a classic study of this connection, see Weckmann 1949, 229–262.
126. García-Gallo 1987, 367–369.
127. Ibid., 624.
128. Ibid.
129. Ibid., 625.
130. Ibid.; emphasis added.
131. Ibid.
132. Ibid., 625–626.
133. Ibid., 627.
134. Ibid., 628.
135. Ibid., 372–374 and 633–636; this quote, 374.
136. Ibid., 274–275.
137. Pérez de Tudela y Bueso et al. 1994, 1:113.
138. The compass needles were still pointing toward magnetic north, which is slightly displaced with respect to the geographical pole. While pilots had noticed easterly variation on their compasses in Europe, westerly variation was unprecedented and disconcerting for Columbus. See Morison 1942, 1:271–272. For a useful explanation of this phenomenon, and of its effect on the drawing of charts in the Mediterranean, see Cerezo Martínez 1994, 25–43.
139. García-Gallo 1987, 369–370.
140. Ibid., 409–410.
141. Ibid., 627–628; this quote, 627.
142. Pérez de Tudela y Bueso et al. 1994, 1:308.
143. Ibid.
144. Sepúlveda 1984, 1.
145. García-Gallo 1987, 383
146. See Zurita's *Historia* I, 25, in ibid., 617.
147. Las Casas, *Historia* 1.4.1.79 (1994, 2:835).
148. Pérez de Tudela y Bueso et al. 1994, 1:482–484; this quote, 483.
149. Ibid.
150. Ibid., 1:483–484.
151. Ibid., 1:488–491; this quote, 489.
152. Ibid.

153. Ibid.
154. Ibid., 1:489–490.
155. This bull is dated 25 September 1493 in García-Gallo 1987, 641–644.
156. Ibid., 641–642.
157. Ibid., 642.
158. Ibid.
159. Pérez de Tudela y Bueso et al. 1994, 1:498–499.
160. Ibid., 1:579–607.

6 Between Cathay and a Hot Place: Reorienting the Asia-America Debate

1. F. Columbus, *Historie del S. D. Fernando Colombo* 6 (1571/1992, 12v).
2. Colón 1992, 382; and Pérez de Tudela y Bueso et al. 1994, 2:1114, resp.
3. Mandeville, *El libro de las maravillas del mundo* 22 (2002, 197).
4. Russell 1991, 27–50.
5. According to Irish legend, the abbot St. Brendan was supposed to have embarked on an ocean journey that landed him on the island named after him. Behaim's map reads: "In the year 565 after Christ, St. Brandon in his ship came to this island where he witnessed many marvels, and seven years afterwards he returned to his country" (Ravenstein 1908, 77). Antilia, or the Isle of Seven Cities was where, according to Portuguese legend, the archbishop of Oporto, was supposed to have fled with his six bishops following the Umayyad invasion of the Iberian Peninsula in 711. Behaim's map reads: "In the year 734 of Christ, when the whole of Spain had been won by the heathen [Moors] of Africa, the above island Antilia, called Septe citade [Seven Cities], was inhabited by an archbishop from Porto in Portugal, with six other bishops, and other Christians, men and women, who had fled thither from Spain, by ship, together with their cattle, belongings, and goods. [In] 1414 a ship from Spain got nighest it without being endangered" (Ravenstein 1908, 77). The thousands of islands identified by Marco Polo on the Sea of Chin and on the Indian Ocean are indexed by dozens of beige and colored shapes. On the Indian Ocean (gore M, 7° N), a legend reads: "Marco Polo in the 39th chapter of the 3rd book states that the mariners had verily found in this Indian Ocean more than 12,700 inhabited islands, many of which yield precious stones, pearls and mountains of gold, whilst others abound in twelve kinds of spices and curious peoples, concerning whom much might be written." And it adds: "Here are found sea-monsters, such as Sirens and other fish. And if anyone desire to know more of these curious people, and peculiar fish in the sea or animals upon the land, let him read the books of Pliny, Isidore [of Seville], Aristotle, Strabo,

the *Specula* of Vincent [of Beauvais] and many others. There he shall find accounts of curious inhabitants, of the islands, the monsters of the ocean, peculiar animals on the land and the islands yielding spices and precious stones" (Ravenstein 1980, 1908).

6. Strabo, *Geography* 2.1.1 (1917–1932). See my discussion of Eratosthenes' world map in chapter 3.
7. On Khubilai Khān's conquest of southern China, see Mote 1999, 444–466; and Rossabi 1988, 77–99.
8. Ravenstein 1908, 89; emphasis added.
9. Marco Polo, *De consuetudinibus et condicionibus orientalium regionum* 3.1–8 (1485/1986, 57r–59v). On Khubilai's attempts to invade Japan, see Rossabi 1988, 99–103.
10. Marco Polo, *De consuetudinibus* 3.89 (1485/1986, 59r). See also postils 271a and 272, which read: "infinite spices" (*aromata infinita*) and "very white pepper" (*piper albissimum*).
11. Ibid., 2.42 (70v).
12. Ibid., 3.9 (59v).
13. On Khubilai's campaigns against Southeast Asia, see Rossabi 1988, 213–220.
14. *Libro del conoscimiento* (1999, 76–77).
15. Ibid., 82–83.
16. Ibid.
17. D'Ailly, *Ymago mundi* 24, in Ailly and Gerson 1480–1483/1990, 21v.
18. Postil 159 in ibid.
19. See the entry for "Scythia" in Smith 1854–[1857]. For Herodotus's description of anthropophagy among the Scythians, see *History* 4.60–65 (1987).
20. Ibid., 4.48.
21. See "Scythia" in Smith 1854–[1857].
22. See Strabo, *Geography* 11.11.2.
23. Mela, *Description of the World* 1.11 (1998). For Latin text see Mela 1971, 5.
24. Pliny, *Natural History* 6.14 (1974).
25. Ptolemy, *Cosmographia* 6 (1478, unfoliated, cols. 209–210).
26. For an account of milk drinking and flesh eating among the Mongols, see the first known European chronicler of the Tatars, the Franciscan friar John of Piano Carpini, who traveled to Mongolia as a papal envoy between 1245 and 1247. Admiring their lactophilia, Carpini asserts in his *Ystoria mongalorum* 4.8 that the Mongols drank huge quantities of mare's milk whenever they could, as well as milk from sheep, cows, goats, and camels (Wyngaert 1928, 49). Horrified by their anthropophagy, Carpini also explains that they ate dogs, wolves, foxes, horses, and, whenever it became necessary, even human flesh. He then proceeds to recount an occasion on which Chingiz

Khān, during his campaign against Cathay, ordered his men to eat every soldier in ten (ibid., 4.7 [47–48]). Marco Polo appears to have relished the mare's milk drunk by Mongols, which they allegedly fermented to the point that it looked like wine (Marco Polo, *De consuetudinibus* 1.57 [1485/1986, 21r]). And in his discussion of the northern city of "Ciandu" (Shandu, or Xanadu), where the Great Khān had his summer residence, Marco Polo maintains that it was customary to eat the flesh of criminals who had been put to death, but not of those who had been killed by disease (ibid., 1.66 [25v]).

27. Piccolomini 1477/1991, 10r–11r. Piccolomini was one of the first readers in Europe to have owned a complete Latin translation of Strabo's *Geography*. On the early diffusion of Strabo's work, see Diller 1975.
28. Ballesteros Beretta 1945, 1:330–331.
29. For the Latin original, see Grossato 1994, 79–94. For the English translation, see Major 1992.
30. It may well be that Conti's account of Cathay in book 4 of Bracciolini's *De varietate fortunae* was inserted by Bracciolini as an aside to Conti's narration. Bracciolini does not claim that Conti reached Cathay, and he does on a number of occasions supplement Conti with information he has gathered on his own.
31. On the expulsion of the Mongols from China, see Mote 1999, 517–563.
32. Piccolomini 1477/1991, 10v.
33. Perhaps the best known example of the maps mentioned by Piccolomini is the circular *mappamundi* completed in 1459 by the Venetian cartographers Fra Mauro and Andrea Bianco, which is now held in the Biblioteca Nazionale Marciana in Venice. This map, which is oriented toward the south, displays Cathay in its lower left corner, well below (i.e., to the north of) continental Europe, along the very latitudes of Scandinavia. See Nebenzahl 1990, 13.
34. Postils 110, 111, and 112 to Piccolomini 1477/1991, 10v.
35. Piccolomini 1477/1991, 10v.
36. Yule 1866, cxxxvi–cxxxvii. For Conti's account in Bracciolini, see Grossato 1994, 84–85. On Zhu Yuanzang's choice of Nanjing as his new capital, see Mote 1999, 566–568.
37. Piccolomini 1477/1991, 10v.
38. Postil 113 to ibid.; emphasis added.
39. Grossato 1994, 92; my translation.
40. Postil 114 to Piccolomini 1477/1991, 10v.
41. Postil 115 to ibid.
42. Piccolomini 1477/1991, 10v.
43. Ibid.

44. Ibid.
45. Postil 116 to ibid.
46. Postil 117 to ibid.
47. Piccolomini 1477/1991, 10v–11r.
48. Postil 118 to Piccolomini 1477/1991, 10v. The "Ariana" mentioned by Piccolomini and Columbus roughly corresponds to the territory occupied by ancient Persia, to the west of the Indus River. This is the second "sphragis" drawn by Eratosthenes to the south of the parallel of Rhodes and to the west of India. See chapter 3. See also Strabo, *Geography* 15.1.73–78; and Pliny, *Natural History* 6.25.
49. Postil 119 to Piccolomini 1477/1991, 11r.
50. Piccolomini 1477/1991, 4v; and Pliny, *Natural History* 2.67. According to Pliny, Cornelius Nepos had written before him that the proconsul of Gaul (France), Quintus Metellus Celer, had "received from the King of the Swabians a present of some Indians, who on a trade voyage had been carried off their course by storms to Germany." Piccolomini adds that he has also read about this ancient incident in "Oton," perhaps the thirteenth-century Otto of Freising, author of *Chronica sive de duabus civitatibus,* though I have not found this reference in Otto's chronicle.
51. Postil 10 to Piccolomini 1477/1991, 4v. On the debate regarding Columbus's travel to England and Iceland, see Ballesteros Beretta 1945, 1:290–301.
52. For a European account of Mongol "physiognomy," we need go no further than Carpini's *Ystoria mongalorum* 2.2: according to Carpini, their bodies were shaped nothing like other peoples'. Their eyes and their cheeks stood farther apart from each other than other peoples'. They had very prominent cheekbones, and their noses were flat and small. Finally, they had small eyes, with eyelids slanting up all the way to their eyebrows. (Wyngaert 1929, 32–33).
53. Postil 56 to Piccolomini 1477/1991, 6v.
54. For the paradox observed by Vignaud, see his *Histoire critique,* the work that completes Vignaud's controversial thesis (1911, 1:1–13).
55. Ibid., 2:135–209 and 280–286.
56. The thesis that Las Casas single-handedly was the forger behind every relevant reference to the goal of reaching Asia in the Columbian corpus was forwarded by Carbia 1930/1936.
57. It is on the basis of its putatively unorthodox and speculative nature that Columbus's learned detractors in Castile would reject the plan he had presented to the Crown. Only last-minute intervention by Fernando and Isabel's intimates moved the Crown to take a chance on Columbus, against the better judgment of the members of the royal *junta* that evaluated his plan.
58. Vignaud 1911, 1:4.
59. Ibid., 1:305–338.

60. Ibid., 2:485. Vignaud considered Columbus's postils to these works to postdate the discovery (1911, 2:338–344).
61. A tendency to underestimate Columbus's participation in an intellectual and material culture that was gradually inventing the belt of the tropics also runs through prominent revisionist works, such as Ulloa 1928; Jane, 1930–1933/1988; Carbia 1930/1936; Manzano Manzano 1976; and Pérez de Tudela y Bueso 1983 and 1994.
62. Manzano Manzano 1976, 155–165.
63. Ibid., 239–381.
64. As John Larner succinctly observed in a very useful survey published in 1988 of major scholarship produced in the decades preceding the recent quincentenary, Pérez de Tudela's argumentation in *Mirabilis in altis* stems "from the absolute necessity of 'preknowledge' to explain Columbus's certainty" (Larner 1988, 15).
65. Pérez de Tudela y Bueso 1983. In the introduction to *Mirabilis in altis,* the author admits that he had initially forwarded this idea in jest to his friends, but that he had gradually been persuaded of its merit.
66. Pérez de Tudela y Bueso 1994, clxiv.
67. Ibid., clvii–clxxiv.
68. Thomas 2003, 57.
69. Ibid., 77. See also Thomas's discussion of Columbus's return to Europe in 1493 (2003, 106–107).
70. Hulme 1986, 37.
71. Ibid., 38.
72. Ibid., 19–22.
73. Ibid., 21.
74. Ibid., 22–41.
75. Ibid., 30.
76. Ibid., 38.
77. The author shows herself unimpressed by the full wording of the "passport," which actually announces "business pertaining to the service of God and the increase of the orthodox faith." See Zamora 1993, 28n17.
78. Ibid., 28–29.
79. Ibid., 29–38, 57–62.
80. Ibid., 42 and 62.
81. Greenblatt 1991, 53.
82. See my discussion of Alonso de Cartagena's treatment of this problem in chapter 5.
83. Hulme 1986, 37.

84. For standard accounts of the drafting and meaning of these official documents, see Morison 1942, 1:138–142; Ballesteros Beretta 1945, 1:522–525 and 537–542; and Taviani 1985a, 494–502. Manzano Manzano 1964, 279–314 presents a useful analysis of these documents and of the possible models behind the titles Columbus requested from the Crown. Manzano Manzano 1976, 9–57, alters this interpretation in order to accommodate the idea that Columbus had set out to reach mid-Atlantic lands whose existence had been secretly revealed to him by the legendary anonymous pilot.
85. Pérez de Tudela y Bueso et al. 1994, 1:64–65; this quote, 64; emphasis added.
86. A few notable examples are Vignaud, who first claimed that the documents making reference to Magnokhanic Asia were a sham (1911, 2:97–103 and 211–233); Colomer Montset, who maintains that Columbus himself had already visited the New World (1952); and Manzano Manzano, who presents perhaps the most elaborate rewriting of Columbus's enterprise based on the legend of the anonymous pilot (1976, 9–17). I am here following the useful synthesis of the debate over the expression "has discovered" provided by Rumeu de Armas 1985, 153–166.
87. Rumeu de Armas 1985, 158–159. Las Casas was swayed in his choice by the phrasing of the *Carta de merced* (30 April 1492), the official document that came to supersede the *Capitulaciones* as Columbus's charter. The codex consulted by Las Casas belonged to the Columbus family, and it contained notarized copies of both documents, but only the *Carta de merced,* not the *Capitulaciones,* was confirmed by the Crown upon Columbus's return in 1493 (Manzano Manzano 1976, 10–12). The *Carta de merced,* not the *Capitulaciones,* is the document cited by Las Casas's principal source, Ferdinand, as the charter issued to Columbus. See F. Columbus, *Historie del S. D. Fernando Colombo* 43 (1571/1992, 86r–91r). As even Manzano Manzano, an adamant supporter of the pre-discovery thesis has observed, this correction on the part of Las Casas unfairly and wrongly compelled Carbia 1930/1936, one of Las Casas's most ferocious detractors among twentieth-century scholars, to accuse the Dominican friar of having forged everything that in any way indicated Asia as Columbus's destination—from the opening chapters of Ferdinand's *Historie* to the official documents drafted between the Crown and Columbus as well as the prologue that Columbus appended to his *Diario.*
88. Ballesteros Beretta 1945, 1:543.
89. García-Gallo 1987, 536–538.
90. Ibid., 537. It should be noted that elsewhere García-Gallo (1989, 669–671) does lend credit to the possibility of a pre-discovery, even as the historian admits that the concession of titles is made only for territories to be discovered in the future, not for anything Columbus might have previously discovered.
91. Pérez de Tudela y Bueso et al. 1994, 1:64. By securing the admiralship for his heirs in perpetuity "as of this moment," Columbus was in effect purchasing a life insurance policy, meaning that should

he die in the attempt to reach his destination any further exploration attempts endeavored by the Crown would have to take into account his son Diego. See Manzano Manzano 1976, 40–41. This observation was made by another advocate of a pre-discovery, Ulloa 1928.

92. Pérez de Tudela y Bueso et al. 1994, 1:64.
93. Manzano Manzano 1964, 290.
94. Pérez de Tudela y Bueso et al. 1994, 1:64.
95. Ibid.
96. Ibid., 1:65.
97. Vignaud 1911, 2:98.
98. Pérez de Tudela y Bueso et al. 1994, 1:65.
99. Ibid., 1:249–267; this quote, 256.
100. Ibid., 1:273–279; this quote, 276.
101. See Manzano Manzano 1964, 299–308, and 1976, 11–12.
102. Pérez de Tudela y Bueso et al. 1994, 1:74–77; this quote, 74.
103. Ibid. "It is Our grace and will that you, the said Christopher Columbus, after you have discovered and won the said islands and terra firma in the said ocean sea or any of them, become our admiral of the said isles and terra firma that you should in this manner discover and win, and that you become our admiral and viceroy and governor in them, and that you be able from then on to be called and titled Don Cristóbal Colón."
104. Ibid., 1:74. See Manzano Manzano 1976, 32–34.
105. Pérez de Tudela y Bueso et al. 1994, 1:71–73.
106. Ibid., 1:71.
107. Ibid., emphasis added.
108. Carbia 1930/1936, 117–118; my translation of Carbia.
109. See Jos 1979–1980, 20. This document was originally published by Navarrete 1825.
110. On Santángel's role in the discovery, see Ballesteros Beretta 1945, 1:515–522.
111. Pérez de Tudela y Bueso et al. 1994, 1:89–91; this quote, 90.
112. Ibid., 1:81–83, 83–85, 86–87, and 87–88, resp.
113. Ibid., 1:140–141.
114. Ibid., 1:89.
115. Vignaud 1911, 2:139–143.
116. Carbia 1930/1936.
117. Manzano Manzano 1976, 155–165.
118. See Jos 1979–1980; and Manzano Manzano 1964, 311–314.
119. Milhou 1983, 145–168.

120. Pérez de Tudela y Bueso et al. 1994, 1:196.

121. Slessarev 1959, 9–25. For a broader historical perspective, see Silverberg 1972, 16–35. I have consulted the version of the apocryphal *Acts of Saint Thomas* in the *Other Bible* (1984). For an English translation of the passage in question from *De adventu,* see Hosten 1923, 66–72. For the Latin text, see Zarncke 1879–1883, 1:837–843.

122. Slessarev 1959, 16–17. According to this author, the legend of Prester John may have its origin in the Thomasine tradition cultivated by the Nestorian communities that extended all the way from Syrian Edessa to the coast of Coromandel. For the earliest identification of Christian communities on the Malabar Coast, see Cosmas Indicopleustes 1909. For the identification of Christian communities on the coast of Coromandel, see Marco Polo, *De consuetudinibus* 3.24 (1485/1986, 63v–64r).

123. Zarncke 1996a, 78.

124. Hamilton 1996, 239.

125. Pseudo-Abdias 1719, 669.

126. Zarncke 1996a, 78–83.

127. Zarncke 1996b, 109. On Alexander's letter, see Silverberg 1972, 58–63.

128. Slessarev 1959, 25–36. See Otto of Freising 1912, 7.33, 365. For an English translation, see Otto of Freising 2002, 443–444.

129. Slessarev (1959, 29–30) points out that one of many legends about the three Magi, contained in the apocryphal Book of Seth, claims that, following the Pentecost, Saint Thomas had arrived in Persia, where he baptized the three kings and took them under his wing.

130. Slessarev 1959, 28; and Silverberg 1972, 16.

131. On Chingiz Khān's campaigns, see Morgan 1986, 55–83, specifically 68–69. For an indispensable treatment of the conqueror's life, see Roux's recent history of the Mongol empire 1993, 29–253.

132. Slessarev 1959, 81–82; and Silverberg 1972, 70–73.

133. Morgan 1986, 59–60; 1996; and Roux 1993, 115–127. Marco Polo uses the term Ong-Khān for Toghril, a title that had been conferred on him by the emperor of Chin for his victory over the Tatars. See Marco Polo, *De consuetudinibus* 1.51–53 (1485/1986, 19r–20r).

134. Postil 100 to Marco Polo, *De consuetudinibus* 1.51 (1986, 19r). On Prester John's "wanderings" through the Asian interior, see Silverberg 1972, 74–139.

135. Marco Polo, *De consuetudinibus* 3.43 (1485/1986, 70v–71r). Marco Polo's reference to the eastern part of sub-Saharan Africa as India Meridiana may ultimately derive from the tripartite division provided by Pseudo-Abdias's *Acta apostolorum*. The same nomenclature is used by an earlier thirteenth-century author who saw himself as following Abdias, Gervase of Tilbury. In his famous "mirror of princes," *Otia imperialia* (completed about 1218), Gervase stated that there were three Indias: an

Upper India where Bartholomew had preached; a Lower India where Thomas had preached, which led to Media and harbored the city of Edessa; and a Southern India, where Matthew had preached, which touched on Ethiopia. See Gervase of Tilbury *Otia imperialia* 2.3 (2002, 182–185).

136. Postil 346 to Marco Polo, *De consuetudinibus* 3.43 (1485/1986, 71r).
137. Slessarev 1959, 84–85; and Silverberg 1972, 163–192.
138. See Sévérac, *Mirabilia descripta* 4–6 (1863, 11–45): India Tertia appears to correspond to the eastern part of sub-Saharan Africa known to Arab geographers as the Zindj; India Minor, roughly corresponds to the Indian subcontinent beyond the Indus Valley through the Coast of Malabar, known to Arab geographers as the Sind. And India Maior appears to have extended beyond the Coast of Malabar indefinitely, that is from the coast of Coromandel and the Ganges on (for the Arabs, the Hind). It should be noted that Marco Polo borrows from two different sets of nomenclature for the three parts of India: on the one hand, he calls the Ethiopian India "India Meridionalis," which is consistent with the nomenclature used by Gervase of Tilbury, and, it seems, consistent with Pseudo-Abdias's *Acta apostolorum*. On the other hand, Marco Polo uses the terms "India Maior" and "India Minor" for the other two parts, except that, for him, the former refers to the Indian subcontinent extending from Moabar (on the Coast of Coromandel), past Malabar (on the southwestern Coast of Malabar), to Resmacoron (west of the Indus, along the Mekrān mountain range, in today's Pakistan). Marco Polo's India Minor, on the other hand, extends from the province of Ciamba all the way to the kingdom of Murfili (one of the regions of India Maior that he describes along southeastern coast of the Indian subcontinent). See Marco Polo, *De consuetudinibus* 3.42 (1485/1986, 70v).
139. Grosjean 1978, 78.
140. *Libro del conoscimiento de todos los reinos* 1999, 60–65; this quote, 60–61.
141. Hamilton 1996.
142. This passage in Foresti is quoted by Beckingham, who identifies the year for this embassy around 1310 (1996, 197–198). For the summary of Carignano's account, see the entry for the year 80 CE in Foresti 1483/1486; this quote, 148r; my translation.
143. Beckingham 1996, 198; and Foresti 1483/1486, 293v–295r; this quote, 293v; my translation.
144. Russell 2000, 121.
145. Silverberg 1972.
146. Manzano Manzano 1964, 313.
147. Tafur 1874, 1:95–109.
148. Ravenstein 1908, 96.
149. Manzano Manzano 1964, 313. On Timur's campaigns, see Manz 1989, 67–73.
150. On the diplomatic exchanges between Timur "the Lame" and Enrique III of Castile, see López Estrada 1999, 23–34.

151. For Ruy González de Clavijo's account of Timur's campaign against India, see *Embajada a Tamorlán* 8.12 (1406/1999, 287).

152. Postils 333 through 342 in Piccolomini 1477/1991, 31r–v.

153. See McGinn 1979, 149–157; and Woodward and Howe 1997. Roger Bacon, like many other Franciscans, was profoundly influenced by the eschatology of the Calabrian abbot Joachim of Fiore (1132–1202)—as d'Ailly and Columbus themselves would be. On Roger Bacon's Joachimism, see Randolph 1969a, 462–467; and Reeves 1969, 46–48. Relevant to Bacon's apocalyptics, particularly as concerns the conversion of infidel nations, are Randolph 1969b, 127–154; and Bigalli 1971. The literature on Joachim of Fiore is vast, and many studies of his life, works, and influence, continue to appear, especially in Italy; but good places to start are the newly revised edition of Reeves 1976/1999; and Bloomfield 1980. A classic discussion of Joachimism in the Franciscan order can be found in Lambert 1961. For Roger Bacon's influence on d'Ailly's apocalypticism, see Smoller 1994, 103–104; and Watts 1985, 81–92. The most thorough study of Columbus's Messianism continues to be Milhou 1983.

154. Bacon, *Opus maius* IV (1897, 1:268). For Bacon's sources, see Aethicus Ister 1993, 4:121; and the prophecy in Pseudo-Methodius, *Die Apokalypse* [13] (1998, 19).

155. Albumasar 1515.

156. Ailly and Gerson 1480–1483/1990, 47v.

157. Postil 545 to ibid. On the role that the Mongols played in Columbus's militant religiosity, see Milhou 1983, 145–168.

158. The book's purpose, as announced by its incipit, is as follows: "Here begins the book or manual of authorities, sayings, opinions, and prophecies concerning the matter of the recuperation of the Holy City and God's Mount Syon, as well as of the invention and conversion of the Isles of the Indies and of all the peoples of the nations" (West and Kling 1990, 100). For Columbus's use of the segment from *De legibus et sectis* referring to the destruction of Muslims at the hand of Mongols or Christians, see Milhou 1983, 55–56; and *Libro de las profecías* 4, in West and Kling 1991, 156–157.

159. On Innocent's early attempts to contact the Mongols, see the indispensable studies by de Rachewiltz 1971, 76–119, whose focus is the missions to the khāns; and Richard 1977, 69–78, whose work more broadly encompasses the missions to Asian rulers between the thirteenth and fifteenth centuries. More recently, see Gil's edition of travel writing to Mongolia in the thirteenth century (1993, 21–158); and the concise treatment of thirteenth-century contact provided by Larner in his recent work on Marco Polo (1999, 15–30). On the place of Innocent IV as both a theorist and a practitioner in the history of the relation between Christians and infidels, see Muldoon 1979, 5–15 and 29–48.

160. See Pelliot's study of this early phase of missionary activity to the Mongols, which includes Güyük's letter in the Persian version found in the Vatican Library and its translation to French (1922–1923).

For an indispensable study of the contents and meaning of this letter, including the translation to Latin of the Mongol original, see Voegelin 1940–1941; this quote, 388.

161. Dawson 1980, 68. For the Latin text, see Wyngaert 1929, 125.
162. Rachewiltz 1971, 119–124.
163. Ibid., 120–121.
164. Ibid., 122–123.
165. Ibid., 144–159. The Īlkhāns of Persia converted to Islam in 1295 and ended all cooperation with Christians after the signing of a peace treaty with the Mamlūks in 1322 (Morgan 1980, 183–187).
166. On Mongol shamanism and religious tolerance, see Morgan 1986, 40–44.
167. Dawson 1980, 187–194. See also Rubruck's *Itinerarium* 33, in Wyngaert 1929, 289–297. On Rubruck's mission to Mongolia, see de Rachewiltz 1971, 125–143.
168. See Marco Polo, *De consuetudinibus* 1.1–6 (1485/1986, 3r–5r). A brief biography of the Polo's can be found in Larner 1999, 31–45.
169. Marco Polo, *De consuetudinibus* 1.4 (1485/1986, 4r).
170. Ibid., 4r–v.
171. I am here following Larner's chronology (1999, 39–43).
172. Marco Polo, *De consuetudinibus* 1.10 (1485/1986, 6r).
173. Jos 1979–1980.
174. Ibid.
175. Piccolomini 1477/1991, [106r].
176. Morison 1963, 13. For the Latin text, see Pérez de Tudela y Bueso et al. 1994, 1:13–15; this quote, 14.
177. Vignaud's case against Asia as Columbus's true destination was made at the expense of such essential documents as the passport and the letter of credence. Vignaud tended to ignore these documents in favor of the *Capitulaciones,* which he argued ought to have mentioned Cathay, Çipango, and India. His case against the traditional thesis also required a skewed reading of the prologue to the *Diario,* which he mistakenly read as suppressing the venal interests expressed in the *Capitulaciones* in order to feign an evangelical and diplomatic mission to Asia. Vignaud believed that perhaps Columbus's dissolute grandson Luis Colón was the author of this imposture and that the body of the *Diario* had also been retouched to make it appear as though Columbus's objective was Asia (1911, 2:255–259). For his part, Carbia 1930/1936 went so far as to claim that Las Casas authored this and other adulterations to the corpus with the aim of redefining an imperialist venture as an evangelical one. A cognate view about Las Casas's role in the redefinition of Columbus's enterprise has been held more recently by Zamora 1993.
178. Pérez de Tudela y Bueso et al. 1994, 1:108–109.
179. Ibid., 1:109.

180. Ibid.
181. Ibid. Columbus deliberately conflates the fall of Granada, the expulsion of the Jews, and the approval of his plan as part of one and the same time and space dimension. Vignaud and others saw this conflation as proof of a careless forgery, but in recent years Milhou has brilliantly explained why Columbus incurred this "error" (1983, 169–188).
182. Pérez de Tudela y Bueso et al. 1994, 1:109; emphasis added.
183. Ibid.
184. Ibid., 1:488–491; this quote, 490–491.
185. Ibid., 1:483–484.
186. I am grateful to Chad Leahy for a meticulous explanation of Las Casas's portrayal of Columbus as a Christian pilgrim (2004). For Las Casas's etymology of the surname *Colón,* see Las Casas, *Historia de las Indias* 1.1.2.2 (1994, 3:357).

7 The Tropics of Empire in Columbus's *Diario*

1. For *Diario* entries corresponding to 3–9 August 1492, see Pérez de Tudela y Bueso et al. 1994, 108–111.
2. Anghiera, *De orbe novo* 1.1 (1530, iiir).
3. Pérez de Tudela y Bueso et al. 1994, 1:112.
4. Ibid., 1:133; emphasis added.
5. Ibid., 1:228–229; emphasis added.
6. Colón 1992, 382.
7. Matthew 5:3 and 5:5, resp.
8. Pérez de Tudela y Bueso et al. 1994, 1:152.
9. Ibid., 3:1519; emphasis added.
10. Ibid., 2:1096.
11. Ibid., 1:114.
12. *Diario* entry for 20 September 1492 in ibid., 1:115.
13. Ibid., 1:116.
14. *Diario* entry for 29 September 1492 in ibid., 1:117.
15. Ibid., 1:119.
16. Ibid.
17. Ibid.
18. As Daston and Park have noted (1998, 146–147), this quarrel with language belongs to the history of "wonder."

19. Pérez de Tudela y Bueso et al. 1994, 1:122.
20. Ibid., 1:191.
21. Ibid., 1:122–123.
22. Ibid., 1:563–573; this quote, 567; emphasis added.
23. Ibid., 1:123.
24. Ibid.
25. Ibid., 1:124.
26. Ibid., 1:123.
27. Ibid., 1:124; emphasis added.
28. Ibid.
29. Ibid., 1:124–125.
30. An elegant treatment of the cognitive process by which Columbus came to coin the term "cannibal" can be found in Lestringant 1997.
31. Pérez de Tudela y Bueso et al. 1994, 1:125.
32. Ibid., 1:126.
33. Ibid., 1:125.
34. Ibid., 1:125 and 127, resp.
35. Ibid., 1:128.
36. Ibid., 1:129.
37. Ibid., 1:131.
38. Ibid., 1:132.
39. Morison 1942, 1:326.
40. Pérez de Tudela y Bueso et al. 1994, 1:133.
41. Ibid., 1:133–134.
42. Ibid., 1:136.
43. Ibid., 1:137.
44. Ibid., 1:138.
45. Ibid., 1:139.
46. Las Casas, *Historia de las Indias* 1.3.2.44 (1994, 3:578; emphasis added).
47. Morison 1942, 1:339.
48. Laguardia Trías 1974, 52–57.
49. Pérez de Tudela y Bueso et al. 1994, 1:139–140.
50. Ibid., 1:140.
51. Ibid., 1:141.
52. Emphasis added.

53. Ibid., 1:142.
54. Mandeville, *El libro de las maravillas del mundo* 23 (2002, 205).
55. Pérez de Tudela y Bueso et al. 1994, 1:143; emphasis added.
56. Ibid.; emphasis added.
57. Ibid., 1:144.
58. Friedman 1981, 67–86.
59. Hulme 1986, 33.
60. Pérez de Tudela y Bueso et al. 1994, 2:721–746; this quote, 725; emphasis added.
61. Ibid., 2:853–869; this quote, 868.
62. Ibid., 3:1519–1545, esp. 1530–1531.
63. For specific recollections of the "physical" monstrosity that Columbus and other Europeans are said to have witnessed in the bodies of a "morally" depraved people they presumed to eat human flesh, see Wey Gómez 1992 and 2007.
64. Pérez de Tudela y Bueso et al. 1994, 1:209; emphasis added.
65. Ibid., 3:1535.
66. Ibid., 1:210.
67. Ibid., 1:211.
68. Ibid., 1:278.
69. Postil 49 to Ailly and Gerson 1480–1483/1990, 16r.
70. This postil also made reference to Ptolemy's opinion that tropical peoples had hot natures rather than cold, and Nordic peoples cold natures rather than hot. See Postil 869 to Ailly and Gerson 1480–1483/1990, 150v.
71. Pérez de Tudela y Bueso et al. 1994, 1:145.
72. Ibid., 1:165.
73. Ibid., 1:177–178.
74. Ibid., 1:178.
75. Ibid., 1:832.
76. Ibid., 2:1097.
77. Ibid., 2:1099; emphasis added.
78. Ibid., 2:1103.
79. Ibid., 2:1105.
80. Ibid., 2:1106.
81. Ibid., 2:1107.
82. Ibid., 2:1107–1108.
83. Ibid., 2:1108.

84. Ibid., 2:1109.
85. Ibid., 2:1109–1110; emphasis added.
86. Ibid., 2:1111–1113.
87. Ibid., 2:1112.
88. Ibid., 2:1113.
89. The pre-Oedipal impulse behind Columbus's imagery is usefully noted in Levin 1969, 83–84.

Bibliography

Manuscripts

Bacon, Roger. *Opus maius* IV. Escorial, g.iii.17 [13th century], Real Biblioteca de El Escorial, Madrid.

Geraldini, Alessandro. *Itinerarium ad regiones sub aequinoctiali plaga constitutas.* Fundo Geral 11169 [16th century], Biblioteca Nacional, Lisbon.

———. *Itinerarium ad regiones sub aequinoctiali plaga constitutas.* MS Harley 3566 [?16th century], 69v–70r, British Library, London.

Zorzi, Alessandro. *Informazione di Bartolomeo Colombo della Navegazione di ponente et garbin di Beragua nel Mondo Novo.* Collezione Alberico, no. 81 [about 1506], Biblioteca Nazionale Centrale, Florence.

Printed Sources

Abernethy, David B. 2000. *The Dynamics of Global Dominance: European Overseas Empires 1415–1980.* New Haven: Yale University Press.