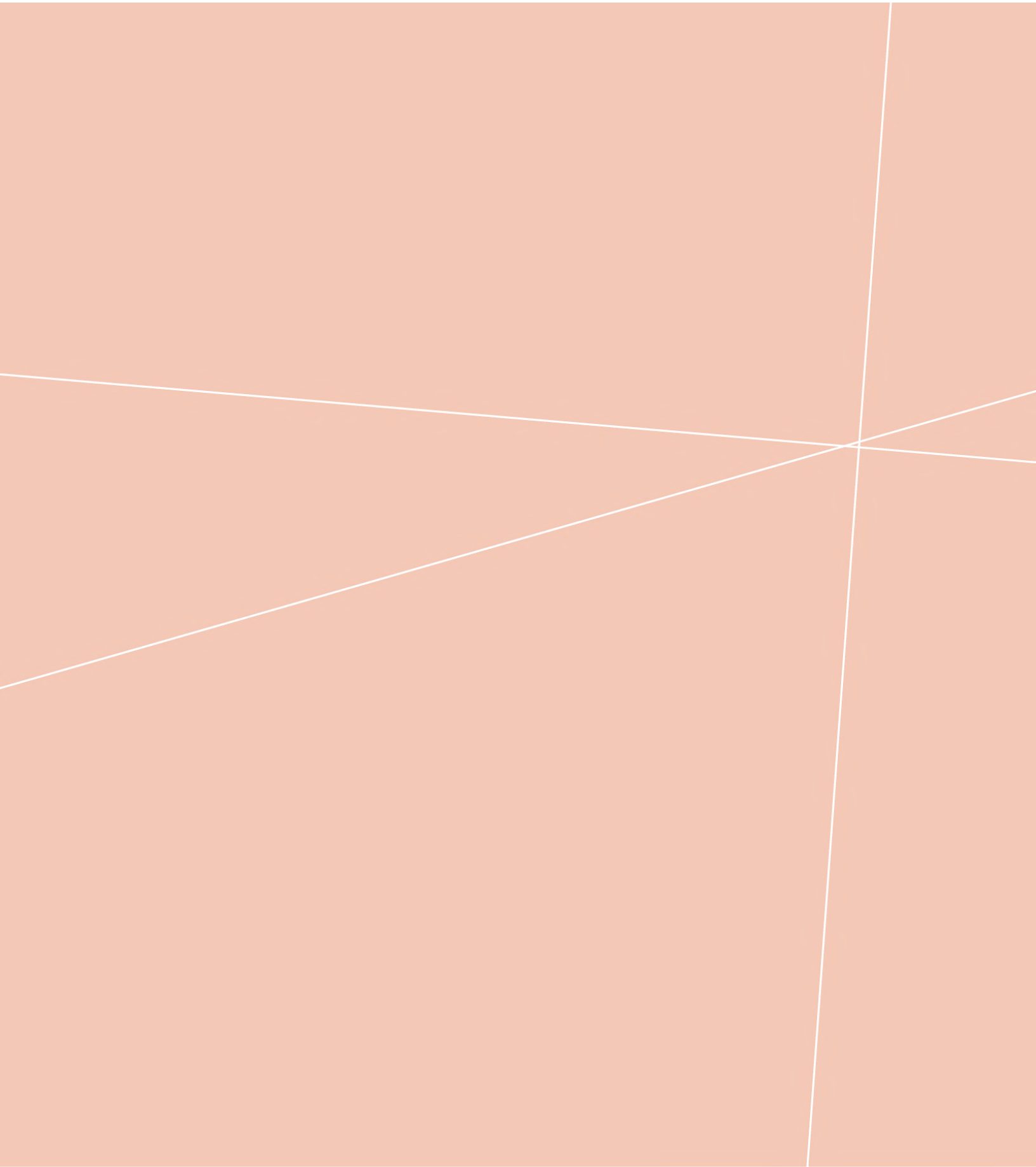


The Meaning of India in Pre-Columbian Europe



In 1517, twenty-five years after the discovery, the Spanish explorer and colonial officer Martín Fernández de Enciso (about 1469–1530) completed a *Suma de geographia* worthy of some reflection. This “geographical summation” was printed two years later with a dedication to the young Holy Roman emperor Charles V, and it was the first work in Spain to have attempted a systematic description of the new expanse that, thanks to Columbus, had come to be called *Indias Occidentales*, or West Indies. The *Suma* was written under the aegis of the Casa de Contratación de Sevilla, the agency created by the Castilian Crown in 1503 with the purpose of overseeing all commercial ventures to and from Spain’s overseas territories.¹ Given the official character of this work, it is no surprise that Fernández de Enciso’s use of the term *Indias Occidentales* should have meticulously observed the geopolitical terms of the Treaty of Alcáçovas (1479–1480) and of the documents issued by Pope Alexander VI in 1493 that granted the Catholic Monarchs exclusive right of access to the territories just discovered by Columbus in the high Atlantic. The *Suma* explicitly wrote off those territories newly discovered by other Europeans to the north in the direction of the land then known as Labrador, defining *Indias Occidentales* instead solely as those territories newly acquired by Spain to the west *and* to the south of El Hierro Island. As we already know, the phrase *versus occidentem et meridiem* had served as the locator deployed by Alexander VI to demarcate the newly discovered territories; and El Hierro was the island in the Canaries that had crucially informed Columbus’s sense of latitude upon his arrival in the Bahamas.² Enciso’s geographical demarcation for the West Indies thus bears its immediate political antecedent in a decades-old dispute between Castile and Portugal for control over Atlantic Africa’s shores and waters. But its intellectual ancestry falls with a geographical

tradition that had long tended to associate legendary India with the lower latitudes of the globe we know today as the belt of the tropics.

Fernández de Enciso's *Suma* indelibly linked the term *Indias occidentales* to the *latitudinal* axis of the enterprise famously sponsored by Aragon and Castile "to the parts of India." In his introductory treatment on the theory of the five zones, the geographer patriotically noted that Fernando and Isabel's discovery of "the Indies, Terra Firma, and Western Isles" had revealed vastly inhabited territories within the torrid zone, to the discredit of "astrologers" who had claimed that the belt of the tropics was uninhabitable. The geographer marveled at the fact that the ancient experts on "the sphere" should have erred so grossly in their characterization of the torrid zone, knowing as they must have known that the entire region of Ethiopia, Arabia Felix, Calicut, and Melaka was "densely populated, and lies directly under the torrid zone and within the tropics."³ In other words, the theory of the five zones had prevailed among Greco-Roman geographers despite the fact that the very authors who espoused the claim that the tropics were intolerably hot, and therefore infertile and inhospitable, simultaneously supplied information about sub-Saharan Africa, the Arabian Peninsula, the Indian subcontinent, and the Malaysian peninsula. Such information, insists Enciso, should have compelled those authors to revise the theory of the five zones—or even to dispense with it altogether.

Fernández de Enciso's invective against the ancients may reveal less about the state of the field among Greco-Roman geographers than about an intellectual and material culture that was gradually reawakening to the call of the tropics and, in this process, beginning to read the old geographical corpus on a new register. Indeed, the theory of the five zones had long coexisted with plenty of references to land and life in the belt of the tropics—in the case of sub-Saharan Africa, at least since Homer had mythified the Ethiopians in the *Odyssey*, and in the case of the Indian Ocean basin, at least since Hecataeus of Miletus had counted the inhabitants of the Indus River basin in his long-lost description of the world (6th century BCE). But Greco-Roman writers had been under no obligation to detect the contradiction that now appeared so obvious to Fernández de Enciso. Because the theory of the five zones entailed universal claims, evidence of inhabited places outside the so-called temperate zone could be considered as the exception that proved the rule: while the torrid zone might be *universally* uninhabitable on account of the sun's heat, it could nonetheless be *accidentally* inhabited on account of local conditions—like the presence of rivers that provided enough water to

defeat drought or of cool winds that tempered the sun's searing heat. So the notion that the cold or hot regions of the world could harbor life *per accidens* had dispensed with the need to revise the claim that the torrid zone was inhospitable. And this notion went hand in hand with the perception that tropical nature was intemperate—an unnatural mother that, when it *did* generate life, exceeded itself in every way, bringing about the myriad marvels and monsters that were supposed to thrive in places like Ethiopia and India.

Unbeknownst to Fernández de Enciso, the cosmological paradigm invented by Parmenides had, in fact, been contested long before Christian Europe's discovery of the tropics: Strabo's conscientious analysis of the state of the field in the opening years of the first century BCE attests to a number of models that Greek philosophers had already voiced as alternatives to the theory of the five zones—precisely because they intuited that nature's hyperactivity in the tropics might obey causes more universal than mere accidents of geography. It is ultimately a variant of this established paradigm, attributed by Strabo to the great theoretical geographer Eratosthenes (about 275–194 BCE), that Arabic and Latin writers, including Albertus Magnus and Pierre d'Ailly, would invoke in favor of the argument that the region between the tropics was, contrary to the established belief, *generally* fertile, inhabitable, and even remarkably temperate.

But the theory of the five zones had ultimately prevailed in the Latin West, and it had taken many decades of Iberian exploration in the belt of the tropics for the illogic of this paradigm to begin to become plain. With the weight of experience at hand, Fernández de Enciso had returned to the reading of his classics, and they now read as they never had before. For Fernández de Enciso, the discovery of the Indias Occidentales was part of a larger process of imperial expansion in sub-Saharan Africa and the extended basin of the Indian Ocean, and this process of expansion in the places the author calls Ethiopia, Arabia Felix, Calicut, Malacca, *and* the Indias Occidentales had begun to reveal to Christian Europeans a vast habitat that in no way reflected the sweltering desolation the ancients had imputed to the torrid zone. Fernández de Enciso published his *Suma de geographia* in 1519—in retrospect, a significant year for the geographical history of the Americas. At this time, a friend of Columbus, Ferdinand Magellan (about 1480–1521) would come to round the South American strait named after him today (52° 30' S) on a mission to demonstrate that the coveted Moluccas (Maluku Islands in Indonesia, 1° S) extended on the Spanish side of the “ante-meridian” that would have lain opposite the Atlantic demarcation of Tordesillas. Since the conquest of the Malaysian port of Melaka in 1511, the Portuguese had wielded control over the trade

route through the strait of Melaka all the way to the spice-bearing Moluccas and had opened the door to the South China Sea. Now Castile wanted its share of the action. Magellan was killed in the Philippines before reaching the Moluccas, and the only ship from his fleet to return to Spain safely was the galleon *Victoria*, captained by Juan Sebastián del Cano (about 1476–1526). Nevertheless, Magellan and del Cano's perilous crossing of the Pacific Ocean to the Philippines (1519–1521) did confirm what many in the Spanish Empire had suspected since Columbus's victorious return to Europe in 1493: the Indies discovered by Columbus were not geographically contiguous with the vast territories earliest documented by Greek Indographers. Columbus had been "wrong" to think that he could cross the Atlantic *ad partes Indie*. The longitudinal tie between East and West Indies had finally been severed; not so, however, the tie that had bound them together by reason of latitude.

In the *Suma de geographia*, the West Indies remains firmly an extension of the traditional India. Not just because Europeans had yet to confirm that a vast ocean intervened between the Americas and Asia. But also because the bulk of the territories newly claimed by Spain in the Americas shared in the hottest latitudes of the globe with sub-Saharan Africa and the extended basin of the Indian ocean. In this sense, the term so precisely used by Fernández de Enciso hardly represents the charitable accommodation that history had allowed for Columbus's stated goal of reaching the Indies. The term *Indias Occidentales* appropriately designated a geographical region that had instantly claimed its share in Mediterranean culture's long-lived and ambivalent fascination with the tropics. By virtue of sharing its general latitude with the traditional India of legend, the West Indies formed part of a continuous belt that had long given Mediterranean geographers—from Herodotus to Columbus—cause to draw profound analogies between sub-Saharan Africa and the basin of the Indian Ocean. And it is as a relatively coherent entity that Ethiopia and India had figured in the geographical corpus that preceded the discovery. As Fernández de Enciso implicitly records, Columbus explored to the west and to the south of El Hierro. And the Discoverer always insisted that the lands he had discovered in the high Atlantic were a part of the Indies. What follows is an attempt to identify information in the foundational record left behind by the earliest authors to have written about India's *place* and, thereby, about its *nature*, that could have ultimately etched in Columbus's mind an indelible tie between the prospect of sailing west across the Atlantic and south toward the belt of the tropics and the dream of reaching legendary India.

The earliest extant mention of the toponym *India* in Mediterranean literature appears in the *Periodos ges* by the Ionian author Hecataeus of Miletus (5th–6th century BCE), the first detailed description of the earth known to us and one of the earliest works to have brought into practice the cartographic convention allegedly invented by Homer, and followed by medieval *mappaemundi*, of drawing the inhabited world as a circular island surrounded by a circumfluent ocean.⁴ The surviving fragments of this geographical work suggest that “India” was first known to the Greeks, via the invading Persians, as the territories on or just west of the basin of the Indus River (*Indon*).⁵ However, in the considerable geographical corpus leading to Columbus’s discovery of the Americas, India came to evoke, often rather vaguely, a far greater range of territories not part of this river basin. For instance, in his lost but influential *Indica*, the Greek historian and diplomat Megasthenes (about 350–about 290 BCE) referred to India as the “quadrilateral,” or rhomboidal, shape bounded by the Indus River on the northwest, the Himalayan mountain range on the northeast, and the ocean on the southwestern and southeastern flanks of the Asian subcontinent we know today as India.⁶ Diodorus Siculus (1st century BCE), whose *Bibliotheca historica* preserved some of Megasthenes’ work and inspired many a line in Pliny’s *Naturalis historia*, illustrates why the convention of thinking about Africa as a separate continental mass from India may not always apply for interpreting pre-Columbian geographies. According to Diodorus, India was separated from Scythia (the northern portion of Asia) by Mount Hemodes (the Himalayan mountain range), and it was bounded to the west by the Nile River. India was, in effect, all the lands facing, or within, the basin of the Indian Ocean, including those African territories to the east of the Nile.⁷ Slightly more restrained, but equally suggestive, definitions for India appeared in Strabo’s *Geography* and Pomponius Mela’s *Chorographia* (44 CE). According to Strabo and Mela, who adopted a skewed version of the quadrilateral suggested by earlier writers like Megasthenes, India was bound on the north by the Taurus Range (a horizontal mountain range that, according to Strabo, ran horizontally east from the shores of the Mediterranean, through Mount Hemodes, and ended on Asia’s eastern shores) and on the west by the Indus River. From these boundaries, it extended all the way to the eastern and southern portions of the circumambient ocean.⁸

In his second-century *Geography*, Ptolemy used the toponym *India* to denote not only the territories that stood *intra Gangem*, or “on this side of the Ganges,” that is, the Indian subcontinent, but also those territories that stood *extra Gangem*, or “beyond the Ganges”—bounded on the north by the Seres, or Silk People, as the Chinese had come

to be known by way of the north along the inland routes of the silk trade, and on the east by the open-ended region of the Sinai, as the Chinese had come to be known from the south, along the trade routes of the Indian Ocean (fig. 1.6, pp. 80–81).⁹ The use of the plural form of the term *las yndias*, brought into vogue by Columbus in the widely printed and translated letter to Luis de Santángel announcing the discovery (dated 15 February 1493), in all likelihood most directly derived from Ptolemy’s “novel” distinction between an intra-Gangetic and an ultra-Gangetic India, although Arabic and Christian writers in the intervening centuries had also introduced threefold divisions that included Africa east of the Nile as a “third” India.¹⁰ It is to India *extra Gangem* that Ferdinand Columbus is referring when, excusing his father, he explains that Columbus “[had] not call[ed] them the Indies because they had been seen or discovered by others [i.e., Europeans], but because they were the eastern part of India beyond the Ganges, to which no cosmographer set limits [i.e., to the east], nor boundaries with another land or province to the east, save with the ocean.”¹¹

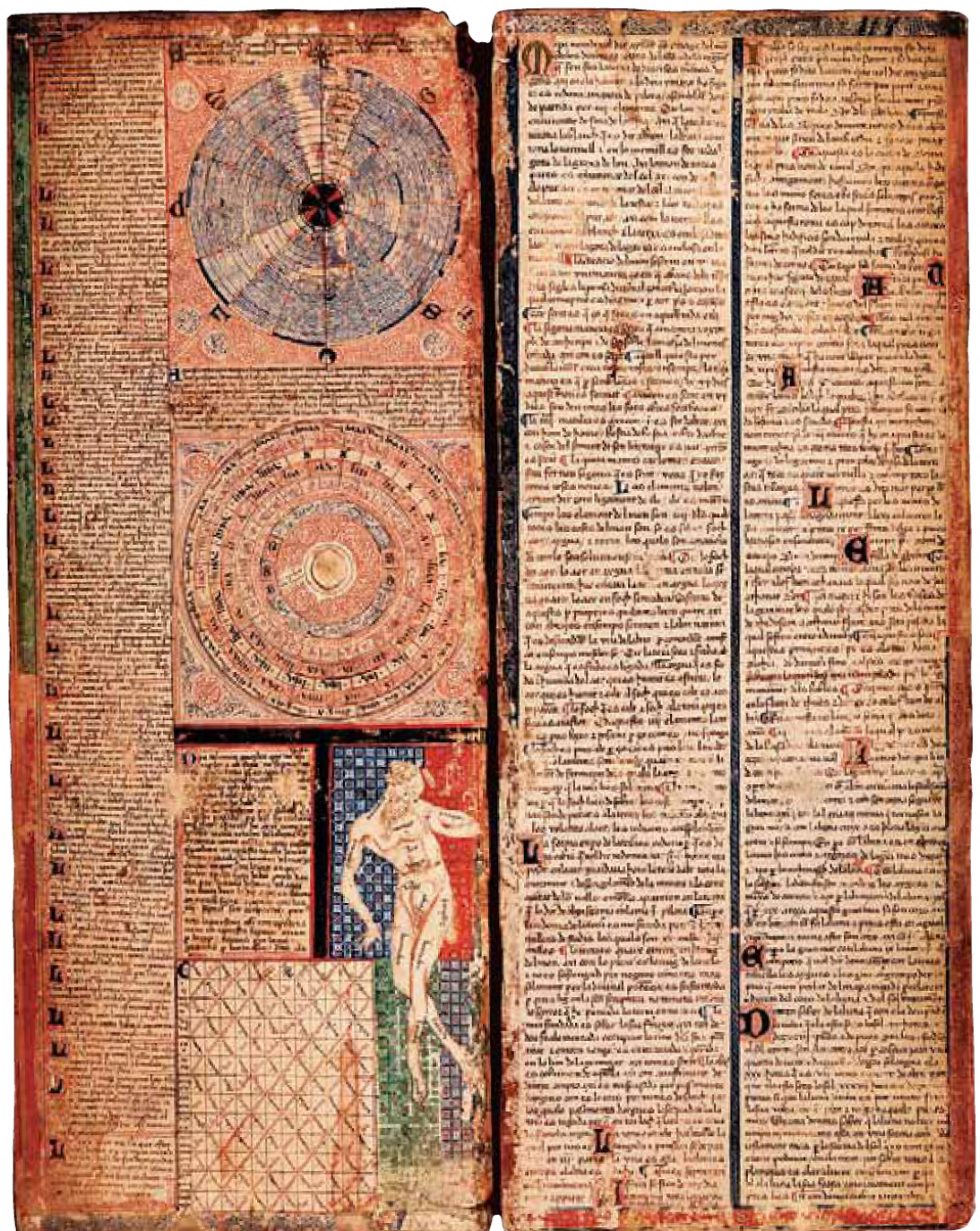
The most comprehensive use of the term *India*, however, may have been offered by the Venetian merchant Marco Polo, whose thirteenth-century *Il milione*, like Ptolemy’s *Geography*, wielded a determining influence on fourteenth- and fifteenth-century iconography of the farthest confines of Asia. Columbus himself was already conversant with Marco Polo’s geography when he embarked on his first transatlantic voyage. He had perhaps even read *Il milione* as early as 1483 or 1484, when he first submitted his plan to Dom João of Portugal. In the Latin translation of *Il milione* (Antwerp, 1485) now preserved in the Biblioteca Colombina, leaving behind his description of the trans-Asian caravan routes to the Mongol empire and of the territories directly within the Great Khān’s sphere of influence, Marco Polo focused on the geographically and politically separate regions of India. His geography of India opens with an account of Khubilai Khān’s failed attempts to conquer Çipango (Japan), which he located 1,400 miles off the coast of Mangi—the Chinese mainland south of the Huang He, or the Yellow River, conquered by Khubilai Khān in 1279. Its waters were the Sea of Chin—perhaps the waters now jointly comprehended by the Yellow, East China, and South China seas—and it lay in the midst of a vast, populated archipelago of more than seven thousand islands. From Çipango, Marco Polo’s account of India followed innumerable sites of commercial value, all the way from the port of Zaiton (Quanzhou, 24° 55′ N, in southwestern China’s Fujian province across from Taiwan) to the farthest confines of the “Sea of India” with its more than 1,378 islands. Marco Polo’s route through India included the province of

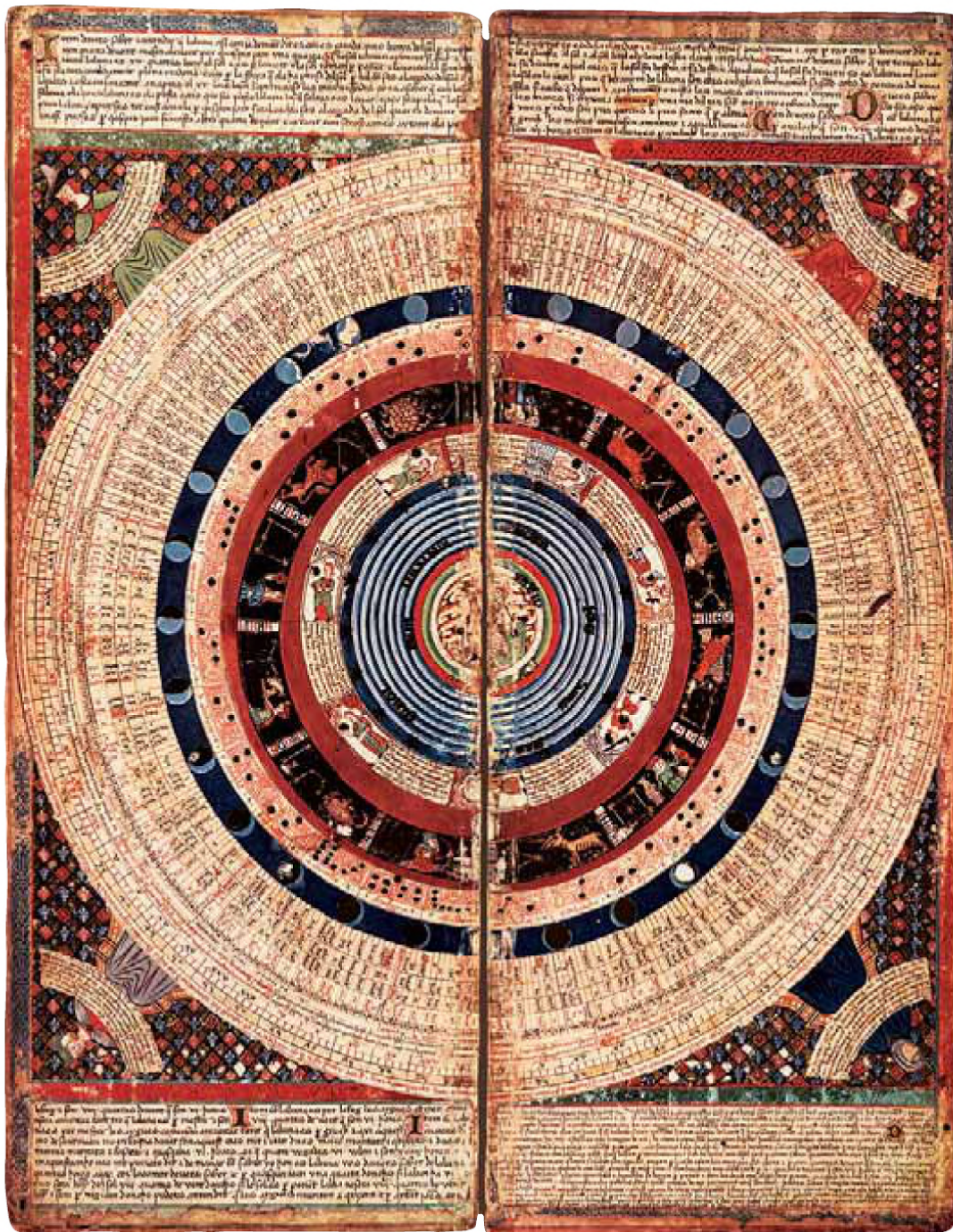
Ciamba (today's North and South Vietnam on the Malaysian peninsula); the Indonesian islands of Java Maior (Java) and Java Minor (Sumatra); the island of Ceylon (Sri Lanka); and numerous coastal provinces on India Maior (the Indian subcontinent). This route also included the east African islands of Scoiran (Socotra, on the Horn of Africa); the island of Madagascar, which Marco Polo placed 1,000 miles south of Scoiran (in front of today's Mozambique, 20° S); and, supposedly farther than Madagascar, the remote island of Zanzibar (actually, off of today's Tanzania, 6° 12' S).

Such remarkable range in the uses of the term India prior to the discovery begins to explain why Columbus on his first transatlantic voyage would carry an official *Carta comendaticia*, or passport, in Latin introducing him as a royal envoy on his way “to the parts of India” (*ad partes Indie*).¹³ India's extension to the *east* of the Nile and to the *south* of the horizontal mountain range that included the Himalayas had remained, so to speak, anybody's guess. Ptolemy and Marco Polo—the two sources that most immediately served to rehaul the iconography of Asia's confines before Columbus—had expressed India's geographical indeterminacy in ways that could equally have invited the Discoverer to dream of an Atlantic crossing.

Ptolemy had encoded the limits of his knowledge regarding the eastern and western reaches of the Sea of India by drawing an enormous littoral between the two farthest points known to him on the coasts of southeast Asia and east Africa. This littoral joined the remote port of Kattigara in the open-ended region of the Sinai (Cattigara Sinarum Statio) with the east African Cape Prason (Rhaptum Promonturium).¹³ Ptolemy thus rendered the Indian Ocean as a landlocked sea, and he visualized the blank extensions to the east of the Sinai and to the south of Africa and the Indian Ocean as unknown land (figs. 1.1, pp. 62–63; 1.6, pp. 80–81; and 2.2, pp. 120–121).¹⁴ Columbus did not fail to notice the open geographical model proposed by Ptolemy. A postil to the *Compendium cosmographie I*, in Columbus's copy of d'Ailly and Gerson's *Tractatus*, reads: “One part of our entire inhabited world is bounded on the east by a terra incognita, on the south by a terra incognita,” and, as Columbus slyly adds to Ptolemy's scheme, “on the west by terra incognita.”¹⁵ Marco Polo, for his part, had granted India indefinite elbow room to the east and to the south by adding to the place names he already knew the formidable number of 7,378 islands on the Sea of Chin and 1,378 islands on the Sea of India. Such is the meaning, for instance, of the myriad gem-shaped isles with which the celebrated mapmaker Abraham Cresques dotted the southwestern margins of the hybrid portolan world map known as the Catalan Atlas of 1375 (last panel of fig. 3.1).

3.I (next six pages) Catalan Atlas, 1375. From Georges Grosjean, ed., *Mappamundi: The Catalan Atlas of the Year 1375* (Dietikon-Zurich, 1978). Courtesy of the Bibliothèque Nationale, Paris, France; and Urs Graf Publishing Company, Dietikon-Zurich, Switzerland.

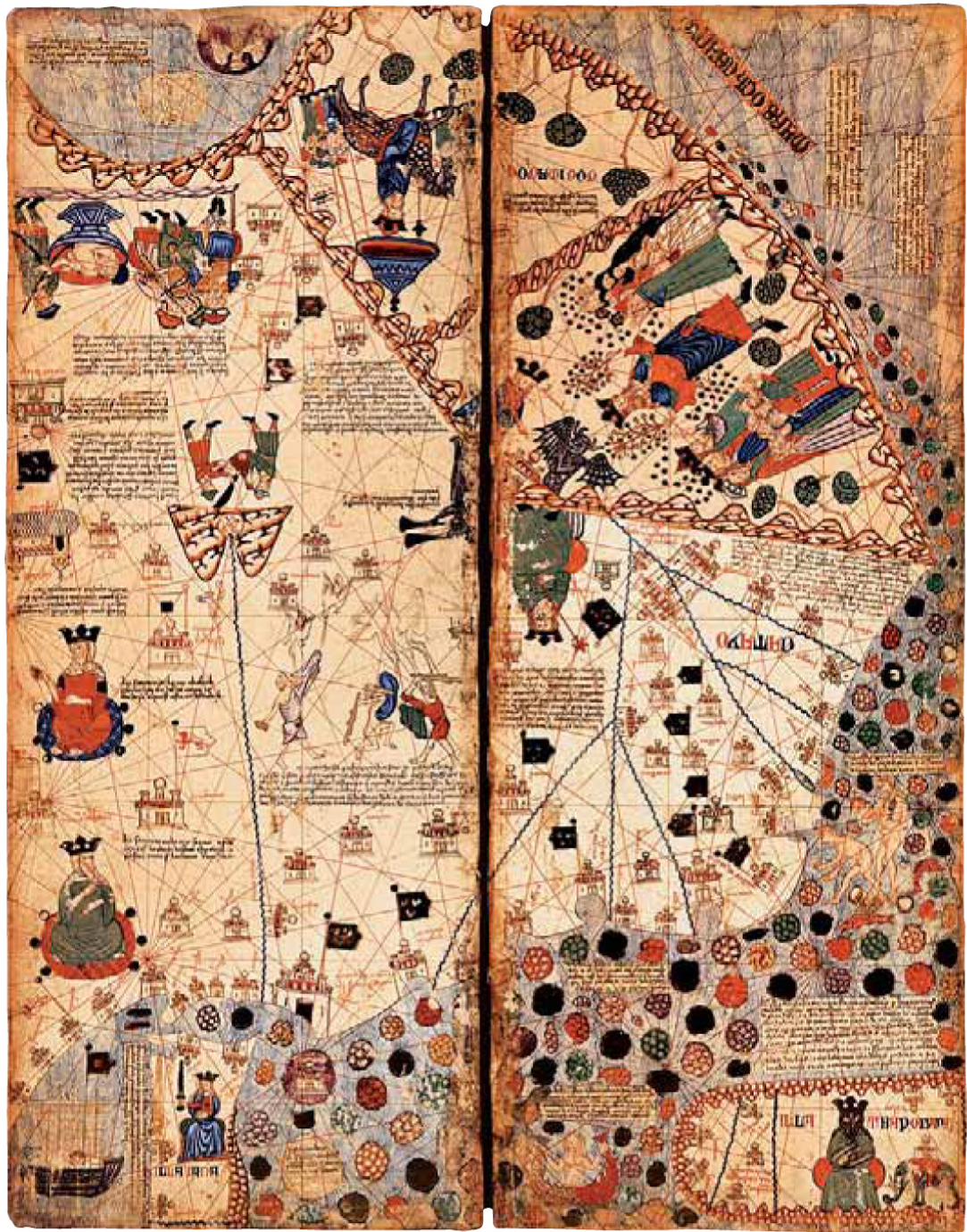












Ptolemy's and Marco Polo's methods of encoding India's geographical indeterminacy were, so to speak, negatives of each other: Ptolemy's India was organized around a distinctly *tropical* landlocked sea whose eastern and southern littorals opened on terra incognita. Marco Polo's India was organized around a seemingly open sea whose waters and islands extended indefinitely to the east and to the south. But both methods would have equally suggested that the territories within the radius of the Indian Ocean might include land that extended indefinitely to the east and to the south—"islands and terrae firmae" (*islas e tierras firmes*), as one finds in the open-ended legal terminology specifying the rights and privileges that the Crown conditionally granted Columbus just before his first voyage.¹⁶ India's geographical indeterminacy is the wild card that allowed Columbus and his few supporters to argue for the feasibility of crossing the ocean "to the parts of India," and it is this same indeterminacy that allowed his detractors in Castile to dismiss his project as little more than a shot in the dark.

India's great geographical elasticity to the east and to the south also explains Columbus's *always* insisting that the lands he had discovered were part of "the Indies," even after he had rightly concluded, during his survey of modern-day Venezuela in 1498, that the overpowering flow of fresh water from the delta of the Orinoco River indicated the presence of a previously "unknown" landmass "infinitely" extending toward the southern hemisphere.¹⁷ This conclusion did compel Columbus to inform the Catholic Monarchs that he had found "another world" (*otro mundo*), and this terminology unequivocally points to the fact that Columbus had in mind the ancient model that posited alternative inhabited landmasses like the antipodes.¹⁸ But the closest Columbus ever came to granting the newly discovered islands a toponym that might distinguish them from the Asia previously "familiar" to Europeans occurs in a legal document Columbus dictated in 1501 or 1502, reasserting his right to preside as a judge in all legal suits arising from commerce in the Bahamas and Caribbean basin. At the time, Columbus was desperately trying to persuade the Crown to restore him to the gubernatorial duties he had lost on account of his disastrous colonial policy in Hispaniola and to turn the tide of opinion on those who doubted the merits of an enterprise that had so far failed to summon the great spoils expected of the Indies.¹⁹ To make matters worse for the Discoverer, King João II's successor, Dom Manuel, had recently informed the Spanish Crown of the successful returns of Vasco da Gama's and Pedro Álvares Cabral's armadas from India's wealthy Malabar Coast.²⁰ Columbus could no longer credibly claim that his India was the India just reached by da Gama

and Cabral, so he resorted to a trick that was perfectly consistent with a geographical tradition that had broadly defined India as extending indefinitely to the east and to the south. In a section of this legal document, Columbus came to refer to the territories he had discovered as “West Indies unbeknownst to all the world” (*Yndias occidentales a todo el mundo ignotas*).²¹ This obstinate qualification on the part of Columbus is of great significance: while his West Indies might not *be* the India just reached by da Gama and Cabral, they were part of the greater geographical system that geographers had designated India. More important, by virtue of forming the eastern portion, or at the very least of extending to the east, of that greater geographical system, Columbus’s “West Indies” were *like* the legendary India. That is, the West Indies possessed a similar nature to legendary India and could therefore be expected to yield the same fabulous spoils for which India had long been known. And the factor that warranted this likeness was latitude. If, by virtue of longitude, the *Yndias occidentales a todo el mundo ignotas* were not the legendary India now claimed by the Portuguese, then, by virtue of sharing the same general latitudes as sub-Saharan Africa and the basin of the Indian Ocean, Columbus’s Indies were, ontologically speaking, the same place.

Whichever the India Columbus was looking to find, it was not just *anywhere* to the west across the Atlantic. Columbus’s India extended along the same general latitudes as the Africa discovered by the Portuguese below the Canary Islands and Cape Bojador. As Ferdinand recalls the genesis of his father’s enterprise, during Columbus’s stay in Madeira, he had persuaded himself that “*to the west of the Canary and Cape Verde Islands lay many lands, and that it was possible to sail to them, and to discover them.*”²² Or, as Las Casas mindfully phrases it in *Historia de las Indias*, Columbus believed that “by way of the West, *toward the south or midday,*” he would find a vast, and certainly the wealthiest and most populous, region of the globe—a region that included India, Çipango, and the domains of the Mongols to the south of Cathay itself.²³

Indeed, *latitude* had always constituted a crucial element of pre-Columbian Europe’s views of that shape-shifting entity known as India, particularly of the India that was known by way of the tropical accident we know today as the Indian Ocean. Over the two millennia of Indography that preceded Columbus’s discoveries, Mediterranean accounts of India had shared a tendency to encode India’s proximity to, or location directly under, the belt of the tropics. The earliest Greek and Roman Indographers were most explicit concerning India’s tropicity—whether by noting its location relative to the Mediterranean or to the stars, or by emphasizing its temperature and the effects of

the sun's heat within its domains. In one passage of the *History*, Herodotus stated that the Indians, "of all the nations of Asia, live furthest to the east of the rising sun," which on its own would mean only that India was the easternmost of all Asian nations.²⁴ But elsewhere, he also specified India's latitude relative to the Mediterranean. Indians shared the farthest reaches of the inhabited world with Arabians, whom Herodotus placed "furthest to the south of all the world," as well as with Macrobian, a race of "long-lived" Ethiopians who were supposed to populate Africa's meridional shores and had formerly been known to Homer as Poseidon's favorites.²⁵ In yet another passage of the *History*, Herodotus located the Indians in relation to the southernmost peoples known to him in Asia. The Indians stood "furthest from the Persians, toward the south," directional information that went hand in hand with information concerning India's hotter temperatures: according to Herodotus, "from sunrise till the breaking-up of the market," India grew far hotter at noon than Greece, forcing people to find respite from the heat in the water.²⁶ The sun's deleterious effects on India would be even more emphatically described by Ctesias of Cnidus (born about 416 BCE), a physician in the Persian court of Artaxerxes II, in his now-lost *Persica*. Ctesias's work, which is known almost exclusively through a summary that was included in the *Library* of the Patriarch of Constantinople Photios I (about 820–893), claimed that India was intensely hot, its sun looked "ten times" larger than elsewhere, people died in hordes suffocated by the heat, and its waters were so intemperate that fish shied away from the surface and kept to the ocean floor.²⁷

Megasthenes, who had traveled to the court of the first Indian emperor Candra Gupta (reigned about 321–about 297 BCE), was far more specific than either Herodotus or Ctesias in his *Indica* concerning India's location. According to Diodorus Siculus's *Bibliotheca historica*, Megasthenes asserted that India was so vast that it covered the entire region between the equator and the Tropic of Cancer. In many places on India's southernmost point, Cape Comorin, "the gnomons of sundials may be seen which do not cast a shadow, while at night the Bears [most likely, Ursa Minor] are not visible."²⁸ Greeks had long adopted from Babylonians the practice of calculating latitudes by measuring the shadow cast on the ground at noon by a vertical shaft, especially at crucial times of the year like the equinoxes, when the sun crossed the celestial equator, and the solstices, when the sun reached either tropic.²⁹ The tropics of Cancer and Capricorn, respectively, mark the sun's maximal declinations north and south of the equator, so that the sun's rays at noon *always* fall perpendicularly to the ground somewhere within the belt of the tropics; whereas in places north of the Tropic of Cancer, the sun's rays at

noon always fall to the north, and in places south of the Tropic of Capricorn, they always fall to the south. Megasthenes' claim that the gnomons could be observed to cast no shadow in many parts of India's southernmost point, and that Ursa Minor could not be seen by night, attests to the great precision with which ancient geographers attempted to indicate location. And since Ursa Minor would have been visible down to a latitude of about 11° S in Megasthenes' time, it is easy to surmise what his assertions jointly meant: India's southernmost point reached somewhere between 11° S and the Tropic of Capricorn.³⁰ According to Diodorus, Megasthenes had gone so far as to claim that even Arcturus (Alpha Boötis), the brightest star just south of the constellation of the Herdsman (Boötes), disappeared from view in the remotest parts of India. Since this star was visible at the time to about 58° N, Megasthenes' calculation tells us that the remotest parts of India reached well beyond the tropic of Capricorn, nearly all the way through the southern temperate zone. A similar view could be found in Pliny's record of Megasthenes' testimony, which asserted that in many places of India the constellation of the Great Bear (Ursa Maior) was only visible "one time in the year, and only for a period of a fortnight [i.e., fifteen days]."³¹ This would have placed "many" parts of India close to 45° S, the latitude beyond which the Great Bear, in Megasthenes' time, would surely have vanished from view.

Megasthenes' most influential contribution to the conceptions held by later geographers about India's general latitude may have been the claim that India enjoyed "two crops in the course of the year."³² The explanation for this biannual cycle resided with the fact that the sun alternately generated and subtracted heat as it advanced toward either tropic along the ecliptic. The generation of life, and hence of crops, would have been associated with the sun's approach to its highest point in the sky at any given zenith, which, for places under or to the north of the Tropic of Cancer would have been on the summer solstice, or once a year; whereas, for places under or near the equator, the sun would have approached its highest point in the sky during the spring and fall equinoxes, once on its way to the Tropic of Cancer and a second time on its way back to the Tropic of Capricorn, that is, twice a year. Disseminated early on in the Latin West by encyclopedists as diverse as Pliny the Elder, Caius Julius Solinus (3rd century), Martianus Capella (early 5th century), and Isidore of Seville, this way of characterizing India would live a long life into the Age of Exploration.³³ It is not by chance that precisely this Indographic *topos* should have been the focus of one of the earliest enquiries by the Crown to ascertain the facts concerning the islands Columbus had discovered on his

first voyage. Immediately following the signing of the Treaty of Tordesillas (7 June 1494), Fernando and Isabel addressed a letter to Columbus—who had already embarked on his second voyage to establish a colony in Hispaniola (1493–1496)—asking for his assistance in establishing the actual place where the Tordesillas meridian ought to fall (16 August 1494). Doubts were evidently cropping up in court concerning the identity of the islands that Columbus had so far directly associated with Marco Polo’s vast archipelago on the Sea of Chin. (Columbus insisted that Hispaniola was Çipango and Cuba an extension of the southern Chinese mainland of Mangi.) Among the answers that the Catholic Monarchs most wished to have from “our Admiral General of the Isles of the Yndies,” were what names the “yndians” called their islands, and which crops had been planted and already gathered, “since we are already past the time when all things sown ought to have been harvested; and, *principally*, we wish to be informed concerning all the yearly seasons, as it seems from what you have said can be found there, that a vast difference exists between the seasons there and those here. *Some are asking whether within the span of a year there are two winters and two summers.*”³⁴ As Strabo had stated many centuries earlier, judgment of the general *climata*, or latitudes, of places could be made by relying “on the evidence of the eye itself, or of the crops, or of the temperature of the atmosphere.”³⁵ Concern in Crown circles with the number of seasons and harvests directly speaks to an ancient geographical corpus that had repeatedly specified India’s general latitude by making reference to the double seasonal cycles characteristic of the torrid zone.³⁶ And Columbus’s answer was unequivocal. In one of the *carta-relaciones* he addressed to the Catholic Monarchs in the course of his second voyage from the recently founded town of La Ysabela (20 April 1494), Columbus explained that the trees of the Indies were perennials that yielded flowers and fruit without repose: “In December [i.e., when winter should have begun in the ‘temperate’ latitudes of the northern hemisphere], we found some of the trees in flower, others with fruit, and not a few of them; so that up to now it has always been the same, so that there are fruit and flowers year-round, and the trees never lose their foliage.”³⁷ A year later, upon Columbus’s return to La Ysabela from his exploration of Cuba and Jamaica, enough time had elapsed since Columbus and his men had begun to cultivate plants on the island of Hispaniola, that he could answer the question long asked by the Catholic Monarchs with unbreakable confidence: “We have now proved that this land yields fruit two times in a year.”³⁸ Ontologically, at least, Columbus and his men had proved that the newly discovered lands were *ad partes Indie*.

Arrian's *Indica* (2nd century) expressed in yet other ways the general latitudes explored by Onesicritus and Nearchus, who accompanied Alexander on his military campaign to the greater basin of the Indus River (326 BCE). Alexander had appointed Nearchus as commander of a flotilla that, retracing Scylax of Caryanda's journey, surveyed the Indus all the way to its outlet on the ocean, crossed the Arabian Sea and the Persian Gulf, and soon reached the Euphrates River (326–325 BCE). Nearchus would encode the tropicity of the region he had explored by stating that he and his men had often noticed at sea that their shadows “did not always cast in the same way” and that when they sailed long distances due south, their shadows also fell in that direction. Although we have no clue as to how far Nearchus's fleet sailed into the Indian Ocean, he and his men had clearly left the temperate zone, where shadows at noon invariably fall to the north; and they had entered the torrid zone, where, except when the sun casts no shadow at noon, shadows at noon will fall either to the north or to the south, depending on the sun's location along the ecliptic.

Arrian's interpretation of Nearchus's testimony also bears recalling, for like so many other Mediterranean Indographers, Arrian used his knowledge of Africa—in this case of the frontier cities of Syene and Meroë—as points of reference to discuss India. Syene and Meroë had played an important role in Greek cartography, particularly since the great theoretical geographer Eratosthenes had used their latitudes to construct his world map.³⁹ Egyptian Syene, famous for its stone quarrying, had long been known to stand directly under the Tropic of Cancer (modern-day Aswan in Egypt, 24° 4' N). As Strabo would put it, the noon sunlight shining into one of Syene's “wells” during the summer solstice failed to cast any shadows at all.⁴⁰ Significantly, Syene marked the frontier between Egypt to the north and Ethiopia to the south (sub-Saharan Africa). The remote “island” metropolis of Meroë, for its part, had been known to Herodotus as the capital of Ethiopia, and Eratosthenes would place it 5,000 stades south of Syene, at an approximate latitude of 17° N (Meroë is now known to have stood south of today's Sudanese capital Khartoum [15° 31' N], near the confluence of the White and Blue Niles).⁴¹ Arrian reasoned that Nearchus's report concerning the general latitude of his fleet's whereabouts was perfectly credible. If it was possible for the sun to cast no shadow at noon on the summer solstice in Syene and during the summer months in Meroë, it followed that the same phenomena should be observed “among the Indians, too, since they are far south, and especially in the Indian Ocean, since the sea falls still further south.”⁴²

How far south Alexander's explorers situated the lands of the Indian Ocean we know only from hearsay gathered by Onesicritus, one of the captains on Nearchus's flotilla and the earliest Mediterranean geographer known to have described the legendary island of Taprobane (Sri Lanka). According to Strabo, Onesicritus reported that this inordinately fertile island stood "twenty days' voyage from the mainland," the "farthest south" of all the islands extending beyond continental India.⁴³ And according to Pliny, Taprobane had been considered part of the *antichthones* until Alexander's campaign to India (undoubtedly, Nearchus and Onesicritus's outing on the Indian Ocean) revealed that it was an island.⁴⁴ (Actually, Pliny's *antichthones* was Crates of Mallos's *antoikoi*, directly south of the *oikoumenē*, not the true *antichthones*, or antipodes.) Needless to say, Taprobane was to become one of ancient and medieval geography's most ubiquitous *topoi*, pictured again and again as an inordinately bountiful, inhabited region at a great distance from the Indian mainland, or, as Pliny handsomely stated, an island "relegated by Nature beyond the orb."⁴⁵

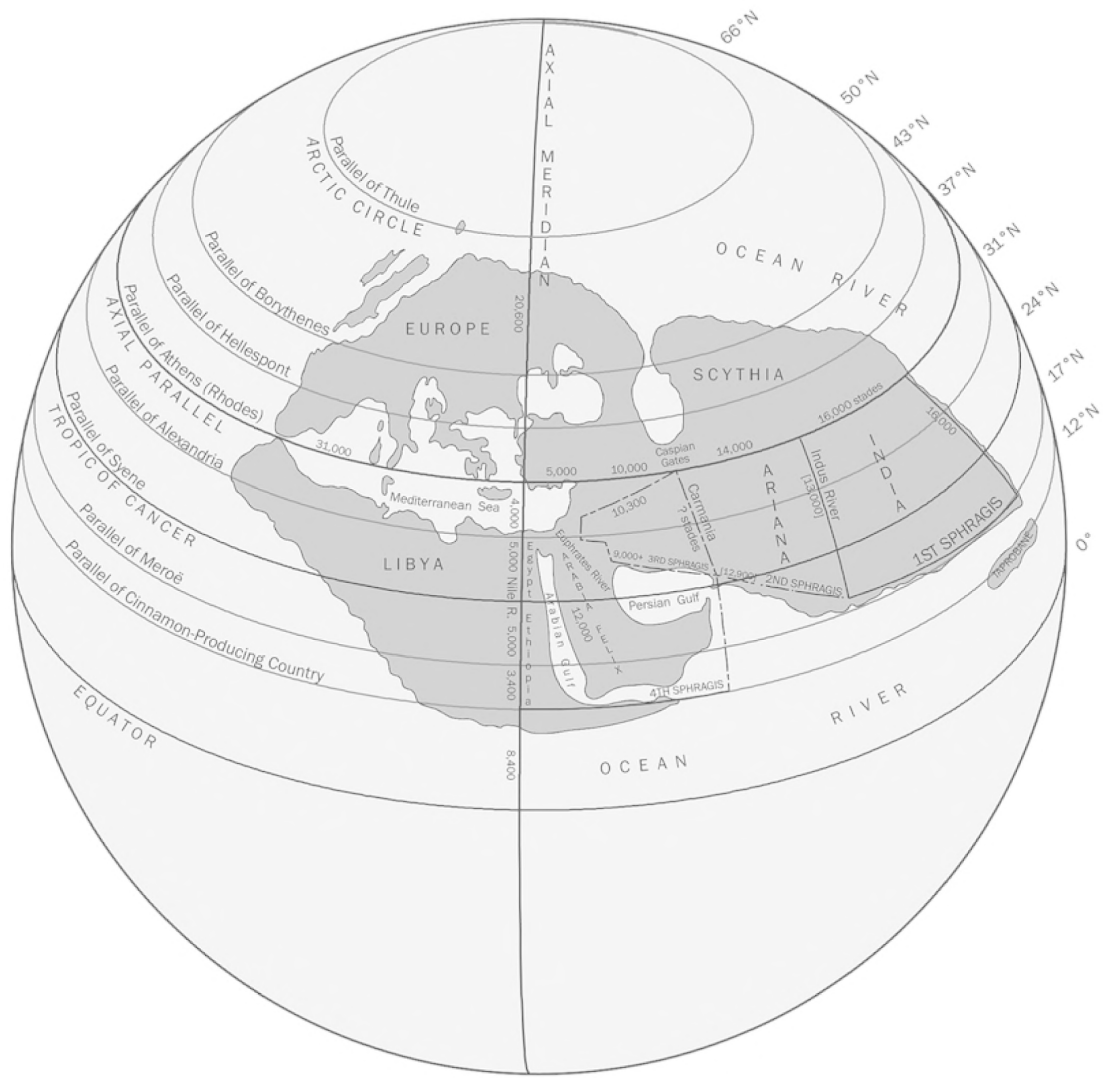
Once early Indographic materials such as these were assimilated by the great theoretical geographers of the Hellenistic period, India emerged far more explicitly as a substantial portion of the inhabited world reaching well into the torrid zone. As Strabo's *Geography* explicitly indicates, theoretical geographers heavily relied on the comparison of reports carried back to the Mediterranean by travelers who had noted climatic conditions and celestial phenomena in that region and others.⁴⁶ The earliest known theorist who conceived of India as an integral part of a larger geographical area extending into the tropics was Eratosthenes (about 275–174). His now-lost works in the fields of geodesy, geography, and cartography—*Measurement of the Earth* and *Geography*—are largely known to us through Strabo. Eratosthenes is most famous for devising a simple method to calculate the globe's circumference, a method that, despite its flaws, produced what some consider to have been a remarkably accurate figure (252,000 stades).⁴⁷ But Eratosthenes is also widely considered today to have been the first Greek thinker to systematize the field of geography. He located and measured the known inhabited world and its individual regions according to a basic matrix that anticipated the use of parallels and meridians in later cartography.⁴⁸

In his *Geography*, Strabo would construct his own world map largely following Eratosthenes' method, and although Strabo disagreed with Eratosthenes concerning the latitudinal and longitudinal extent of the known inhabited world, his picture of the Afro-Indian tropics was nearly identical to that of his predecessor. Eratosthenes

had subscribed to the Homeric view that the inhabited world was an “island” entirely surrounded by ocean. But his world map parted ways with the cartographic tradition previously established by geographers like Hecataeus, who depicted the inhabited world as a disk-shaped island. Because the inhabited world was in some sense shorn flat on the north and on the south by intemperate latitudes, Eratosthenes and other geographers assumed that the width, or longitude, of this “island” was at least twice its breadth, or latitude, save for the fact that the world map also tapered in toward the poles. As Strabo explains, the inhabited world was contained within one of the two horizontal quadrants that resulted on the northern hemisphere from drawing a perpendicular circle to intercept the equatorial circle and the poles. Assuming that the inhabited world was bound on the east and west by this meridian, as well as on the north and south by the inhospitable cold and heat, Eratosthenes had likened the inhabited world to a Macedonian chlamys, or a near-trapezoidal cloak.⁴⁹

Having built this chlamys, Eratosthenes proceeded to locate the known inhabited world and its regions according to a matrix composed of one parallel and one meridian (fig. 3.2). As we have mentioned, Eratosthenes assumed that the Egyptian city of “Syene”—the “door” to Ethiopia—stood on the Tropic of Cancer, which, by his measurement in stades (16,800) rendered a latitude of approximately twenty-four degrees north of the equator. He also assumed (mistakenly) that Syene stood along a single meridian that ran vertically from the frontier African region known as cinnamon-producing country (3,400 stades south of Meroë, or about 12° N); through the Ethiopian capital Meroë (5,000 stades south of Syene or 17° N); through Syene itself (24° N); through the city of Alexandria (5,000 stades north of Syene or 31° N [actually 31° 13' N]); through the island of Rhodes (about 4,000 stades from Alexandria or 37° N [modern 36° 15' N]); through the Hellespont or Dardanelles (about 8,100 stades from Alexandria or about 43° N [modern 40° 17']), through the mouth of the Borysthenes River (5,000 stades from Hellespont or about 50° N [Dnieper River, actually 46° 30' N]); and, finally, through the island of Thule, or Iceland (11,500 stades north of Borysthenes or about 66° N [modern 64° 45' N]).⁵⁰ By these numbers, the breadth of the known inhabited world would have covered 38,000 stades, or about fifty-four degrees—from about half the distance between the equator and the Tropic of Cancer nearly all the way north to the Arctic circle.⁵¹

Eratosthenes had also estimated the width of the inhabited world along the parallel of Rhodes (approximately 37° N), which ran through the Pillars of Hercules (Strait



3.2 Reconstruction of Eratosthenes' world map. After Strabo's *Geography* (1917–1932). Prepared by Lynn Carlson, Brown University, Providence, Rhode Island.

- Determine boundaries for Eratosthenes' sphragides
- - Indeterminate boundaries for Eratosthenes' sphragides
- [] Boundary measurements supplied by Strabo

of Gibraltar) all the way through “the capes and most remote peaks of the mountain-chain that forms the northern boundary of India” (also called “Taurus Range”).⁵² The resulting figure was 74,000 stades, which Eratosthenes elevated to 78,000 in order to meet the standard that the length of the inhabited world ought to be at least twice its breadth.⁵³ Because he assumed that the “parallel of Athens” at this latitude measured less than 200,000 stades, Eratosthenes thought that the length of the inhabited world covered “more than a third of the whole circle” (about 140 degrees from east to west). This estimate afforded him an insight that would have discouraged even the most irrepressible mind from contemplating an oceanic crossing: “if the immensity of the Atlantic Sea did not prevent, we could sail from Iberia to India along one and the same parallel over the remainder of the circle.”⁵⁴ (Incidentally, Eratosthenes’ inhabited world spanned the equivalent distance in degrees between the coasts of Portugal and Korea.)⁵⁵

Having divided the chlamys-shaped world by means of an axial meridian and an axial parallel (Strabo calls these *elements*), Eratosthenes then began to place the different regions of the world in relation to the parallel of Athens by means of geometrical figures called *sphragides*, or seals, that approximated the shapes and sizes of each region.⁵⁶ It seems almost certain that he proceeded to build his world map on the basis of this geographical physiography rather than by drawing other parallels and meridians to organize regions in relation to each other; but, fortunately, we do know thanks to Strabo how Eratosthenes came to assign India its place on the world map.

Like Megasthenes before him, Eratosthenes had adopted the view that India’s shape was rhomboidal, except that this shape was skewed to one side, so that it was bounded on the east and south by the ocean, on the north by the Taurus Range, and on the west by the Indus River.⁵⁷ Having “attached” this *seal* by its northernmost boundary to the “parallel of Athens,” Eratosthenes proceeded to fill the southern division of his world map from east to west by drawing three other seals. The seal next to India was Ariana, which Eratosthenes arbitrarily bounded on the west by means of a diagonal line drawn from the gates of the Caspian Sea to the farthest capes of Carmania (presumably south of the Iranian city of Kerman and on the threshold between the Gulf of Oman and the Persian Gulf).⁵⁸ The third seal represented an ill-defined region extending due west of this line toward the Euphrates River and due south or southwest to the Persian Gulf.⁵⁹ And the fourth seal represented a region comprised by “Arabia Felix, the Arabian Gulf, all Egypt, and Ethiopia.”⁶⁰ According to witness accounts, India extended south of the Taurus Range (37° N) for a distance of 15,000 stades, which was approximately

the distance from the “parallel of Athens” to the parallel of Meroë (17° N), so that “the most southerly capes of India rise opposite to [along the same parallel] as the regions about Meroë.”⁶¹ The same could be said for Arabia Felix, which extended 12,000 stades south of Arabia Deserta (the Syrian Desert, between the Mediterranean and the Persian Gulf), so that Arabia’s southernmost reaches, like India’s, lay “opposite to Aethiopia.”⁶² Needless to say, the fact that Arabia Felix and India extended as far south as Ethiopia explains why the geographical corpus that preceded the discovery relentlessly compares or conflates these regions: latitude may have constituted a far more vital organizing principle for theoretical geographers than continental divisions or topographical accidents. As for the remaining portion of the southeastern quarter in Eratosthenes’ map, we know from elsewhere in Strabo’s *Geography* that Eratosthenes had also situated the island of Taprobane 3,400 stades south of India’s southernmost capes, which meant it stood “opposite to”—along the same parallel as—cinnamon-producing country (about 12° N). So much for the territories that stood east of the Nile and south of the Taurus range in Eratosthenes’ map, facing the Indian Ocean. For a more complete and systematic picture of the Afro-Indian tropics, we must look elsewhere in the *Geography* for Strabo’s own world picture.

Because Strabo exercised tremendous restraint in his use of itineraria, he granted the known inhabited world even less ground than his predecessor Eratosthenes. Barely 70,000 stades in length and 30,000 stades in breadth, Strabo’s inhabited world reached north only as far as the parallel of “Ierne” or Ireland (12,700 stades north of Rhodes or about 55° N), though he barely reduced the division south of the parallel of Athens by placing the parallel of cinnamon-producing country 3,000 stades rather than 3,400 stades south of Meroë (13° N rather than 12° N). As for the African territories west of the Nile, Strabo’s outline is somewhat vague, but it does provide more definition to our general picture of Saharan and sub-Saharan Africa. Unlike India, whose longer sides were elongated far out into the southeastern portion of the ocean, the “Lybian” coastline joining the Pillars of Hercules with the region of the “Western Ethiopians” (Ethiopians west of the Nile toward Africa’s Atlantic coast) was tapered in by the circumfluent ocean, so that Libya’s Atlantic coastline protruded out only slightly beyond, or to the west of, the port of Gades (Cadiz) in the Atlantic coast of Spain, then “receded” back toward the southeast, and finally “broadened out” toward the south until it reached Western Ethiopia, perhaps extending as far south as the parallel of Meroë.⁶³ Lybia and Egypt, then, extended mostly north of the parallel of Syene, occupying the desert and semidesert

region we know as Saharan Africa, whereas Ethiopia extended south of the parallel of Syene (i.e., Tropic of Cancer), occupying what we know as sub-Saharan Africa on either bank of the Nile River. Strabo's north-south division of the African continent along the Tropic of Cancer unmistakably associates black Africa with the hotter latitudes of the globe. And, as we have already seen, Strabo extended this connection to those parts of India that reached as far south as Ethiopia.⁶⁴ We need only revisit the advice that cosmographer Jaume Ferrer de Blanes offered Columbus in the wake of the discovery to appreciate the hold that the connection between tropicality, heat, and blackness would continue to exert on Mediterranean perceptions of sub-Saharan Africa and the basin of the Indian Ocean: by Ferrer's account, years of conversation with "Indians and Arabs and Ethiopians" had persuaded him that "all good things come from very hot regions whose inhabitants are black or dark brown; and therefore, in my judgment, until Your Lordship meets such peoples, you shall fail to find an abundance of such things."⁶⁵

Strabo also carried Eratosthenes' protocol for map building well beyond the use of an axial parallel and an axial meridian to locate separate regions: he proposed drawing a set of parallels and meridians to either side of each of these two "elements" in order to divide land and sea.⁶⁶ In a now-lost treatise entitled *Against Eratosthenes*, the astronomer Hipparchus (flourished 161–126 BCE) had derided Eratosthenes for failing to use astronomically observed latitudes as the primary criteria for situating individual regions on the world map.⁶⁷ Hipparchus had divided the globe into 360 degrees (700 stades each), with the intention of describing individual places degree by degree of latitude from the equator to the pole.⁶⁸ While Strabo agreed that Hipparchus's use of *climata* would produce a more precise world map than Eratosthenes', he did excuse himself from the tedious task of providing a description of the known inhabited world degree by degree. Based on Hipparchus's table of latitudes, however, Strabo reverted to an older division of the world according to seven parallels, precisely the seven *climata* later specified by Ptolemy in his *Almagest* and widely adopted from him by Arabic cartographers for their own *mappaemundi*.⁶⁹

The system of parallels implemented by Strabo for his world map observed more or less regular intervals determined by the duration in "equinoctial hours" of the longest day of the year for each of the seven parallels.⁷⁰ (This appears to have been one of the technical means used by Columbus in the Caribbean in order to establish specific latitudes, including the egregious latitudes recorded in his *Diario*.)⁷¹ According to Strabo, each "clime" was separated from the one before it by "half an equinoctial hour": the

inhabited world still began with cinnamon-producing country (3,000 stades south of Meroë, or 13° N), but the first clime ran through Meroë, where the longest day measured thirteen equinoctial hours (17° N). The second clime ran through Syene, where the day measured thirteen and a half equinoctial hours (24° N, that is, the Tropic of Cancer). The third clime ran 400 stades south of Alexandria, where the day measured fourteen hours (about 30° 20' N). The fourth clime ran through the island of Rhodes, where the longest day was fourteen and a half hours (37° N). The fifth parallel ran “south of Rome but north of Neapolis,” where the longest day was fifteen hours (3,400 stades from the parallel of Rhodes, or about 42° N). The sixth parallel ran through the Pontus, or the Black Sea, where the longest day was fifteen and a half hours (1,400 stades north of Byzantium, itself 4,900 stades north of Rhodes, or about 46° N). And the seventh clime ran through the Borysthenes River, where the longest day was sixteen equinoctial hours (3,800 stades north of Byzantium, or about 50° N).⁷²

According to Strabo's system, the parallel of Rhodes still divided the known inhabited world along the Mediterranean and the Taurus Range all the way from the Pillars of Hercules to the farthest capes of India. Nearly everything below this parallel was supposed to fall in either Africa or India. Thus the parallel 400 stades south of Alexandria ran west of Egypt “through Cyrene and the regions 900 stadia south of Carthage and central Marurusia [Mauretania],” and due east of Egypt through “Coelesyria, Upper Syria, Babylonia, Susiana, Persia, Carmania, Upper Gedrosia, and India.”⁷³ The parallel of Syene (Tropic of Cancer), ran due west “almost five thousand stadia south of Cyrene” and due east “through the country of the Fish-Eaters in Gedrosia [first identified by Nearchus and Onesicritus], and through India.”⁷⁴ The parallel of Meroë ran due west through the “unknown regions” of Lybia and due east through the “capes of India.”⁷⁵ And, finally, the parallel through cinnamon-producing country ran due west through “the most southerly regions of Lybia [here the toponym stands for Africa west of the Nile, including Ethiopia],” and due east through the mouth of the Arabian Gulf [Red Sea], and “to the south of Taprobane.”⁷⁶ Such is the system by which India assumed its place on Strabo's world map, on which a vast portion of the inhabited world extended a long way south of the Tropic of Cancer. More important, the “diaphragm” by which both Eratosthenes and Strabo divided the world map—which placed Europe in the northwest, Africa in the southwest, Scythia in the northeast, and India in the southeast—should make it clear why geographers continued to make a distinction between the higher and supposedly cooler latitudes of Asia, that is, Scythia, and the

hotter southerly regions of Asia, that is, India. We return to this crucial latitudinal distinction in chapter 6. For now, note that it is precisely this latitudinal distinction that motivated Columbus to theorize in the margins of one of his favorite books, the *Historia rerum ubique gestarum* (Cologne, 1477) by Aeneas Sylvius Piccolomini (Pope Pius II, 1405–1464), that the “beginning” of India stood directly across from Hispania and toward the south.⁷⁷ In its most generous sense, India was for Columbus that southeastern quarter of the world that extended indefinitely to the east of the Nile River and indefinitely to the south of the parallel of Rhodes.

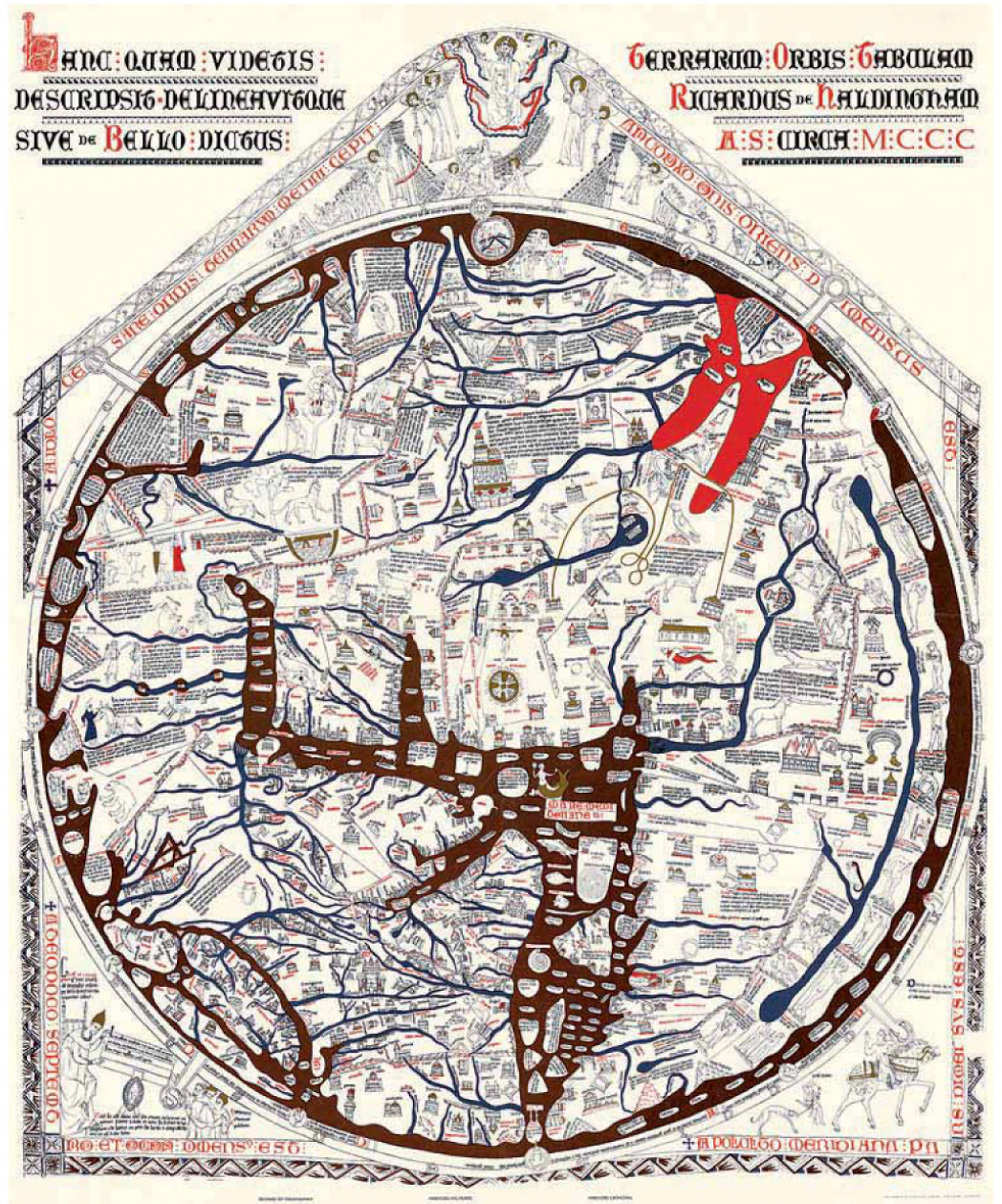
Perhaps Strabo’s most important reservation with regard to Eratosthenes’ world map concerns the insularity of the inhabited world suggested by his chlamys-shaped model. Strabo’s objection to representing the known inhabited world as an island is of crucial importance when we consider the terms of the project presented by Columbus in Castile: as Strabo argued, because the geographer was concerned with describing only those places that were known to him, it mattered little whether he rendered the known inhabited world as an island—drawing a hypothetical littoral to join the farthest points known along its outer edges—or as an open geographical system—drawing nothing between such endpoints. (This means, for instance, that Ptolemy’s later decision to enclose the Indian Ocean—by first “drawing” a Great Bay [Magnus Sinus] to join the Malayan Peninsula [Aurea Chersonesus] to the port of Kattigara [Cattigara Sinarum Statio], and by then drawing a littoral around the Indian Ocean between Kattigara and the African Cape Prason [Rhaptum Promonturium]—constitutes a cartographic convention by which ancient geographers conveyed the absence of geographical data.) Strabo’s world map, unlike that of Eratosthenes, was indeed open-ended. By the time Strabo composed his *Geography*, Crates of Mallos had in the meantime constructed a globe that posited alternative inhabited landmasses centered on the temperate zones in the three remaining quadrants of the globe and separated from one another by vast stretches of ocean (*antoikoi*, *antichithones* [or antipodes], and *perioikoi*).⁷⁸ For Strabo, the proper construction of the world map would have plotted the known inhabited world on a globe constructed after Crates’ model.⁷⁹ Like littorals drawn between known frontier points, the existence of such landmasses was only hypothetical—that is, inferred by means of philosophical reasoning. So too was their habitability, which—given that Crates’ landmasses were completely incommunicated from one another by vast stretches of ocean and, in the case of the northern and southern hemispheres perhaps also by the intolerable heat of the torrid zone—meant for Strabo that those other landmasses were “not inhabited by men such as exist in our fourth.”⁸⁰

The fact that India was part of a larger geographical system extending into the tropics was by no means lost in the transition from the great theoretical works written by Hellenistic cartographers like Strabo and Ptolemy to early encyclopedic works in Latin like Pliny the Elder's first-century *Naturalis historia* and Macrobius's fifth-century *Commentarium in somnium Scipionis*. Pliny, for instance, adopted a system of parallels similar to the sevenfold system once designed by Eratosthenes to divide the inhabited world. By way of Megasthenes, Pliny also situated the farthest points of India on or well beyond the Tropic of Capricorn itself. It was also in the influential work of Macrobius that the Latin West primarily came to visualize India's participation in a larger geographical system that extended into the torrid zone (fig. 1.2, p. 72). Simple as the sketch of the continental masses appears in Macrobius's map, it crisply depicted significant portions of Africa, Arabia, and India reaching well into the area of the map marked by Macrobius as uninhabitable on account of the sun's heat. (Our particular version of Macrobius includes the labels "aethiopia," "mare rubrum," and "taprobana" within this "burnt" region of the *orbis terrarum*.) No less than 150 maps traced upon Macrobius's specification have survived today in manuscripts of his *Commentarium* produced between the ninth and fifteenth centuries, attesting to the relative popularity of Macrobian iconography in the Latin West.⁸¹

But of the world maps that may have been known to Columbus in the tradition that preceded the introduction of the graticular format prescribed by Ptolemy's *Geography*, the most significant for our purpose is the hybrid *mappamundi* contained in the opening folios of d'Ailly's *Ymago mundi* (fig. 1.5, pp. 76–77). D'Ailly's *mappamundi* incorporated the chlamys-shaped model of theoretical geographers like Eratosthenes and Strabo; the division of the globe into five zones of Macrobius; and the division of the known inhabited world into seven *climata*, which d'Ailly's most immediate sources, Albumasar's *Introductorium in astronomiam* and al-Farghānī's *Liber aggregationum stellarum*, owed to Ptolemy's *Almagest*. D'Ailly most certainly made good use of Jacopo d'Angelo's 1406 translation of Ptolemy's *Geography*, as is shown by the two compendia of the *Cosmographia* included in d'Ailly and Gerson's *Tractatus*. But at the time he composed *Ymago mundi* (1410), d'Ailly probably remained unfamiliar with the maps that had been constructed by Maximus Planudes around 1300 on the basis of Ptolemy's instructions. The maps we know today as distinctly Ptolemaic only appeared with Francesco Lapacino and Domenico Buoninsegni's 1415 translation of the *Geography*, too late for d'Ailly to have used them in his treatise.⁸²

A number of features on d'Ailly's *mappamundi* alert us to crucial concepts for apprehending Columbus's understanding of the world map. First, this *mappamundi* constituted an explicit rejection of the cartographic model offered by tripartite *mappaemundi* produced in the aftermath of the Crusades, which sometimes located Jerusalem at the center of a disklike inhabited world and which ascribed axial importance to the relation between this center and its periphery rather than to differences in latitude among places. The best-known example of such *mappaemundi* is perhaps the map held today in Hereford Cathedral (about 1290), which shows Jerusalem's walls as a crenellated circle at the center of the map (with the figure of the Crucifixion hovering just above it) and the monstrous races along the right-hand edge of the map, presumably, in the southernmost hinterlands of the *orbis terrarum* (fig. 3.3). As d'Ailly explains in his consideration of the *ante-climata* that, by Ptolemy's *Almagest*, were supposed to mirror the canonical *climata* from the southern hemisphere, Jerusalem was no more the center of the inhabited world than had been Rome or Greece. Christian geographers had claimed, on the basis of the famous passages in Psalm 73 [74]:12 and Ezekiel 5:5, that Jerusalem stood at the center of all nations. D'Ailly carefully qualified this claim, explaining that Jerusalem only stood at the center of the seven *climata*, that is, in the middle of the northern hemisphere. For d'Ailly, and for his Arab predecessors, the true geographical center of the world map was a city that the Arabs had called Arym. This city was supposed to stand on the very equator, equally separating the northern from the southern hemisphere as well as the eastern from the western portions of the inhabited world.⁸³ In fact, Jerusalem figures not at all in the version of d'Ailly's *mappamundi* annotated by Columbus! And Columbus did not fail to draw the same distinction between Jerusalem as the spiritual center of all nations, which he *did* firmly believe, and Jerusalem as the geographical center depicted by tripartite *mappaemundi*. On the margins of this passage in d'Ailly's *Ymago mundi*, Columbus dutifully noted "the error of locating Jerusalem at the center of the earth."⁸⁴ Indeed, it may not be far-fetched to suggest that in d'Ailly's motion to displace the geographical center from Jerusalem to Arym, we are already witnessing the transition from a geographical imaginary that regarded the Mediterranean basin as the absolute, temperate middle between a cold periphery to the north and a hot periphery to the south, to an imaginary that was beginning to regard the Mediterranean as merely the northern fringe of a far broader geographical system, the middle of which was now the equator itself.

3.3 Hereford *mappamundi*,
 about 1290. From a facsimile by
 Schuler-Verlag, Stuttgart, Germany.
 Courtesy of the Dean and Chapter
 of Hereford Cathedral, Hereford,
 United Kingdom.



It is also of great significance that d'Ailly should have considered India as extending all the way to the Tropic of Capricorn, a notion that he explicitly borrowed from the passages we have mentioned in Pliny's *Naturalis historia*. On the margins of d'Ailly's assertion regarding the latitudinal reach of India, we find a crucial postil by Columbus that reads: "It should be understood that the side of India that is toward us, that is, toward Spain, extends from the north all the way to the Tropic of Capricorn."⁸⁵ Again, d'Ailly's *mappamundi*, which is meant to illustrate the above information, unequivocally depicted India as part of a larger geographical system extending far into the tropics. India's tropicality is signified on this map by the vertical direction of the letters spelling out its name, to the east of an equally vertical Red Sea and of sub-Saharan Africa. A legend located between the First Clime (Meroë) and the equator, reads thus: "It is said that India covers one-third of the world, extending all the way to the south." And on the left hand side of the map, below the equator, another legend reads: "These climes all the way to the equator and beyond contain many habitations, as can be gathered from authentic histories."

The momentous arrival of Ptolemy's *Geography* (about 1400) in the Latin West and the discoveries conducted by the Portuguese beyond Cape Bojador undoubtedly enabled European cartographers in the second half of the fifteenth century to begin to visualize a vast and rich and populous world in the torrid zone (figs. 1.1, pp. 62–63; 1.6, pp. 80–81; and 2.2, pp. 120–121). Ptolemy's influential work specifically placed the northernmost and southernmost limits of the known inhabited world at 63° N and 16° 25' S (approximately eighty 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).⁸⁶ Ptolemy corrected the estimates of his predecessor Marinus of Tyre regarding the latitude and longitude of the known inhabited world. Marinus had placed the northernmost and southernmost limits of the known world at 63° N and at the Winter Tropic, or Tropic of Capricorn (23° 51' S), and its easternmost and westernmost limits—the mainland port of Kattigara (in Southeast Asia) and the Isles of the Blest (Canary Islands)—fifteen one-hour intervals apart. This made the known inhabited world 86.5 degrees in latitude and 225 degrees in longitude.⁸⁷ Columbus was thoroughly acquainted with Ptolemy's *Geography*, and he of course preferred Marinus's measurement for the known inhabited world because it would have greatly extended Asia's easternmost reach and narrowed down the ocean between the Canaries and the end of the Orient from 180 degrees to merely 135 degrees in longitude.

Significantly, both Ptolemy and Marinus located a major portion of the known inhabited world within the belt of the tropics. Ptolemy's southernmost latitude of $16^{\circ} 25' S$ mirrored the latitude of the parallel of Meroë on the northern hemisphere ($16^{\circ} 25' N$).⁸⁸ In the heart of Africa, just beyond this parallel, Ptolemy pointed to an uncharted region of Aethiopia Interior that he called Agysimba, the region later mentioned by Columbus in his postil to d'Ailly's "De quantitate terre habitabilis," which was meant to emphasize the latitudinal extent of Portugal's discoveries into the southern hemisphere (fig. 3.4).⁸⁹ According to Ptolemy, Marinus of Tyre had located Aethiopia Interior's Agysimba and "Indian" Africa's Cape Prason considerably farther south, along the Tropic of Capricorn ($23^{\circ} 51' S$). In Atlantic Africa, Ptolemy charted the inhabited world to an otherwise unidentified coastal location called Hypodromus Aethiopiae that he placed at $5^{\circ} 15' N$.⁹⁰

On Africa's eastern shores, Ptolemy's southernmost outpost was Cape Prason at $8^{\circ} 25' S$, perhaps Cape Delgado on Mozambique's northern border (modern $10^{\circ} 45' S$). And the farthest location known to Ptolemy in southeast Asia was Kattigara at $8^{\circ} 30' S$, today disputably identified with Hanoi (see, respectively, "Rhaptum promonturium" and "Cattigara" on fig. 2.2, pp. 120–121).⁹¹ Nearly the entire African and Asian coastline connecting Cape Prason and Kattigara converged on a landlocked sea that Ptolemy had explicitly enclosed between the tropics of Cancer and Capricorn. As we know, Ptolemy had enclosed this "tropical" sea by drawing a hypothetical littoral joining Cape Prason and Kattigara, so that the eastern and southern rims of what we know today as the Indian Ocean opened toward terra incognita to the east and to the south. Thus Ptolemy's terra incognita to the east suggests that while he may have measured the longitude of his *oikoumenē* at 180° , he was accounting only for the *known* part of the inhabited world and conceded that it might extend well beyond the easternmost boundary marked by Kattigara. More important, the uncharted African region of Agysimba and the southern rim of the Indian Ocean gestured in Ptolemy's world map toward what one can only interpret as the Cratesian *antoikoumenē*, which was supposed to mirror the known inhabited world from the southern hemisphere.

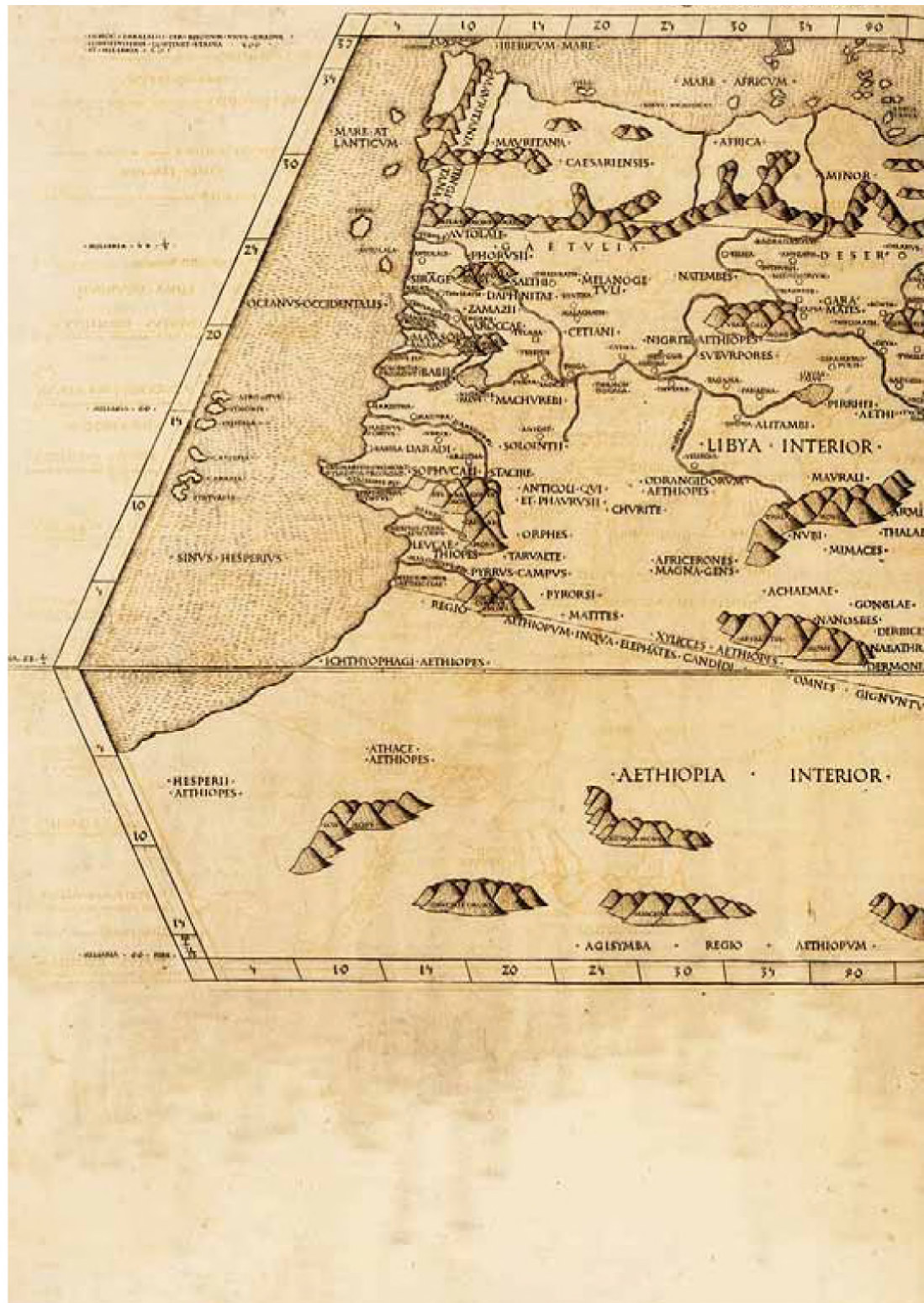
One can only imagine the skepticism with which Christian geographers who preferred the closed geographical model of the inhabited world proposed by Augustine would have regarded the convention of showing the confines of Africa and the Indian Ocean as terra incognita. The world map included in the 1482 Ulm edition of Ptolemy's *Geography* may well have registered this theological scruple in the form of a disclaimer that reads not simply "Terra incognita," as did the earlier printed editions

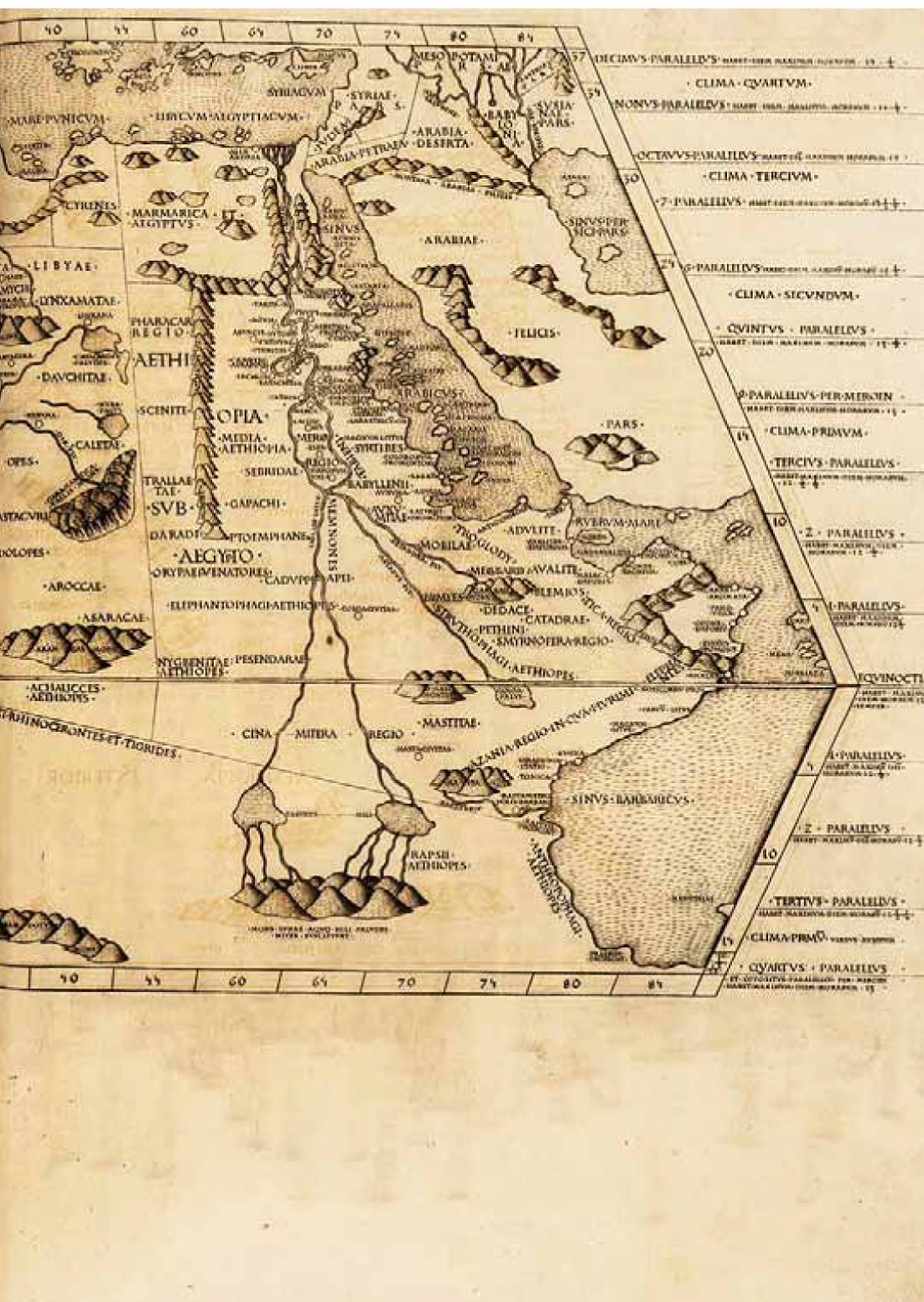
of 1477 (Bologna) and 1478 (Rome), but rather “Terra incognita secundum Ptholomeum” (unknown land according to Ptolemy) (fig. 2.2, pp. 120–121; compare to figs. 1.1, pp. 62–63, and 1.6, pp. 80–81).⁹² But Ptolemy’s picture of sub-Saharan Africa and the Indian Ocean basin as a herculean geographical system that could hardly be construed as the outer fringes of a world revolving around the Mediterranean was meant to win ground in the end. Indeed, the belt of the tropics gradually usurped center stage on world maps, acquiring ever-greater specificity and weight as cartographers began to correct and augment Ptolemy’s projections in order to reflect the discoveries conducted by Portugal and Castile in the course of the fifteenth and early sixteenth centuries.

For the period immediately preceding Columbus’s discoveries, our prime example is Martin Behaim’s globe of 1492 (fig. 1.3, pp. 12–13). Behaim’s globe unequivocally illustrates why anyone thinking of sailing “by way of the West” to the so-called Indies, might have anticipated sailing west across the Atlantic *and* south into the lower latitudes of the globe then known as the torrid zone. Behaim probably resided in Portugal at the same time as Columbus, although it is not clear that they ever met.⁹³ But, like Columbus, Behaim may have seen the tropics firsthand, for it appears that he traveled with the Portuguese to Guinea between 1484 and 1485. And, like Columbus, Behaim came to inform himself very thoroughly concerning the discoveries of the Portuguese in Atlantic Africa: the globe he constructed upon his return to Nuremberg is widely considered today the state of the art on the eve of the discovery. Behaim’s principal sources were the Ulm edition of Ptolemy’s *Geography* (1482), Isidore of Seville’s *Etymologiae*, a German edition of Marco Polo’s *Il milione* (Nuremberg, 1477), and, most likely, a number of portolan charts afforded by the new discoveries in Atlantic Africa.⁹⁴ His globe traced the trajectory of the Portuguese just beyond the Cape of Good Hope, rounded by Bartholomeu Dias in 1488, to a place labeled Cabo Ledo (Joyful Cape).

Behaim’s globe amended the Ptolemaic view of the inhabited world in crucial ways. First, owing to the recent experience of the Portuguese, this globe no longer portrayed the Indian Ocean as a *mare clausum*, or a landlocked sea. Second, it showed rather matter-of-factly what the young Alessandro Geraldini would have dared to voice earlier that year at the assembly that had gathered in Santa Fe to discuss Columbus’s project: that the Portuguese had already crossed the entire span of a perfectly navigable and inhabitable torrid zone along Atlantic Africa, reaching beyond the Tropic of Capricorn into the southern temperate zone. In other words, the Portuguese had charted inhabited land well beyond the modest limits of Ptolemy’s *oikoumenē* (16° 25’ S), and even beyond the more generous limits of Marinus’s inhabited world—the Tropic of Capricorn.

3.4 Regional map of Africa in the edition known to Columbus. From Ptolemy's *Cosmographia* (Rome, 1478). Courtesy of The John Carter Brown Library, Providence, Rhode Island.





And this realization concerning the latitude of the *orbis terrarum* appears to have been of immediate consequence for Behaim's portrayal of its longitude: since Ptolemy's predecessor, Marinus, had more closely approximated the extent of the inhabited world reaching into the southern hemisphere (all the way down to the Tropic of Capricorn), why not assume that Marinus's generous measurement for the longitude of the inhabited world was also closer to the truth? This may well be why Behaim was willing to assign a longitude of 234 degrees to the *orbis terrarum*, significantly greater than the 180 degrees assigned to it by Ptolemy. And this does not count the innumerable islands that Behaim was willing to portray extending far to the east of the Asian landmass. Columbus, it seems, was not a lone voice crying out in the wilderness when he claimed that the ocean was narrow between the ends of East and West. This inference evidently floated around already in the minds of those who had considered the extent of Portugal's incursions into the southern hemisphere. Thus, beyond the eastern shores of the Indian Ocean, where Ptolemy had pointed to terra incognita extending indefinitely to the east, Behaim now took license to plot an entire geographical system largely derived from Marco Polo's description of the Far East, specifically, from Marco Polo's own account of India.

Marco Polo's India did not concern itself, at least in the Latin edition of *Il milione* known to Columbus, with the continental inlands reaching toward the northern latitudes of Asia. Marco Polo described instead a *maritime* system, largely concerned with water routes and coastal regions, which is not at all surprising for a merchant, who would have envisioned himself trading through India by boat from one port to another. This maritime India extended all the way from an oceanic archipelago that included the island of Çipango to the coast of Mangi, to the coast of Ciamba, to Indonesian islands like Java Maior and Java Minor, to the inner shores and islands of the Indian Ocean itself, and to the African islands of Madagascar and Zanzibar. Behaim chose to plot this huge maritime system, like Ptolemy's Indian Ocean, squarely under the torrid zone: the island of Çipango and the port of Zaiton, on the southern Chinese mainland, stand directly on the Tropic of Cancer; while Madagascar and Zanzibar—the other bookend to Marco Polo's India—stand on, and just beyond, the Tropic of Capricorn, just off the eastern coast of Africa. Significantly, Behaim still conceived of the ocean waters bathing the shores of Japan, southern China, Malaysia, and Indonesia as an eastern extension of that vast tropical accident we know today as the Indian Ocean. And if Columbus's world picture looked anything like Behaim's, it would have been this eastern extension of India

that Columbus may have imagined himself reaching when he thought of sailing out of the lower latitudes of the Canaries with the intention of reaching the East “by way of the West.”

It is unfortunate that the *mappamundi* presented by Bartholomew Columbus to King Henry VII of England does not survive. Neither does the nautical chart that Columbus is supposed to have carried with him on his first navigation to the Indies, which according to the *Diario*, displayed “certain isles” that Columbus had drawn on the region of the mysterious sea he thought he was traversing in the final stages of the outward passage (25 September 1492).⁹⁵ Nor do any of the other cartographic works that Columbus promised to draft for King Fernando and Queen Isabel.⁹⁶ Had these works survived, and if they did provide significant geographical information other than that contained by works like Behaim’s globe, we might have more conclusively answered where Columbus believed he was heading.

It does appear that Columbus, who may have learned the craft from his own brother Bartholomew, was an able cartographer. Some scholars have even fancied the two brothers making a living drawing and selling nautical charts since their earliest days in Portugal, although this claim cannot be substantiated, given the dearth of information surrounding Columbus’s early career.⁹⁷ It is also true that one ought to read the Discoverer’s own claims about the early Columbus with caution, since the late Columbus did develop a penchant for aggrandizing himself in the face of mounting opposition for his failed policies in Hispaniola and of deepening skepticism concerning the nature of his enterprise. And yet he may not have been bragging altogether when he famously recounted for Fernando and Isabel what he had sought to learn in the arts of navigation and cosmography early on in his career.

In the cover letter he wrote for the celebrated *Libro de las profecías* in 1501 or 1502 urging the Catholic Monarchs to take on the task of reconquering Jerusalem, Columbus provided an intriguing account of the relationship between the art of navigation, which for him would have involved an understanding of all the *artes* involved in establishing one’s location on the globe, and scientific knowledge itself, suggestively encoded in this letter as “knowledge of the secrets of this world”:

Very High Majesties: at a very young age, I began sailing the sea, and have continued to do so until today. *The very art of navigation predisposes he who practices it to want to know the secrets of this world.* I have been trying to do so now for over forty years.

I have dealt and conversed with learned men, ecclesiastical and secular, Latins and Greeks, Jews and Moors, and many others of other sects. I found Our Lord to be well disposed toward this my wish, and I received from Him the spirit of intelligence to carry it out. *In the marine arts, He made me knowledgeable, and gave me enough understanding of astrology, as well as of geometry and arithmetic, and also the ingenuity of soul and the manual skills to draw spheres and, on them, cities, rivers and mountains, islands and ports, each in its proper place.* In this time I have come upon and have sought all manners of writings on cosmography, histories, chronicles, and philosophy and other arts, to which Our Lord palpably opened my understanding with His hand, so that I should see it possible to navigate from here to the Indies, and He imparted in me the necessary strength of will to do so. With this fire I came to Your Highnesses.⁹⁸

However we judge Columbus's assertions about the divine origin and girth of his interests, this passage does speak to a sensible understanding of the skills involved in drawing things in their "proper place" on the world map. And it is not just the Discoverer who paid the early Columbus the compliment of having crafted himself as an able cartographer. This may well have been part of the impetus behind the tribute paid to Columbus by Jaume Ferrer de Blanes when, in 1495, the preeminent cosmographer stated that he was happy to stand corrected in his method for placing the meridian of Tordesillas "by those who know and understand more than myself, especially by the Admiral of the Indies, who is more learned in these matters than anyone in our time, for he is a great theoretician and an admirable practitioner, as his memorable achievements manifest."⁹⁹

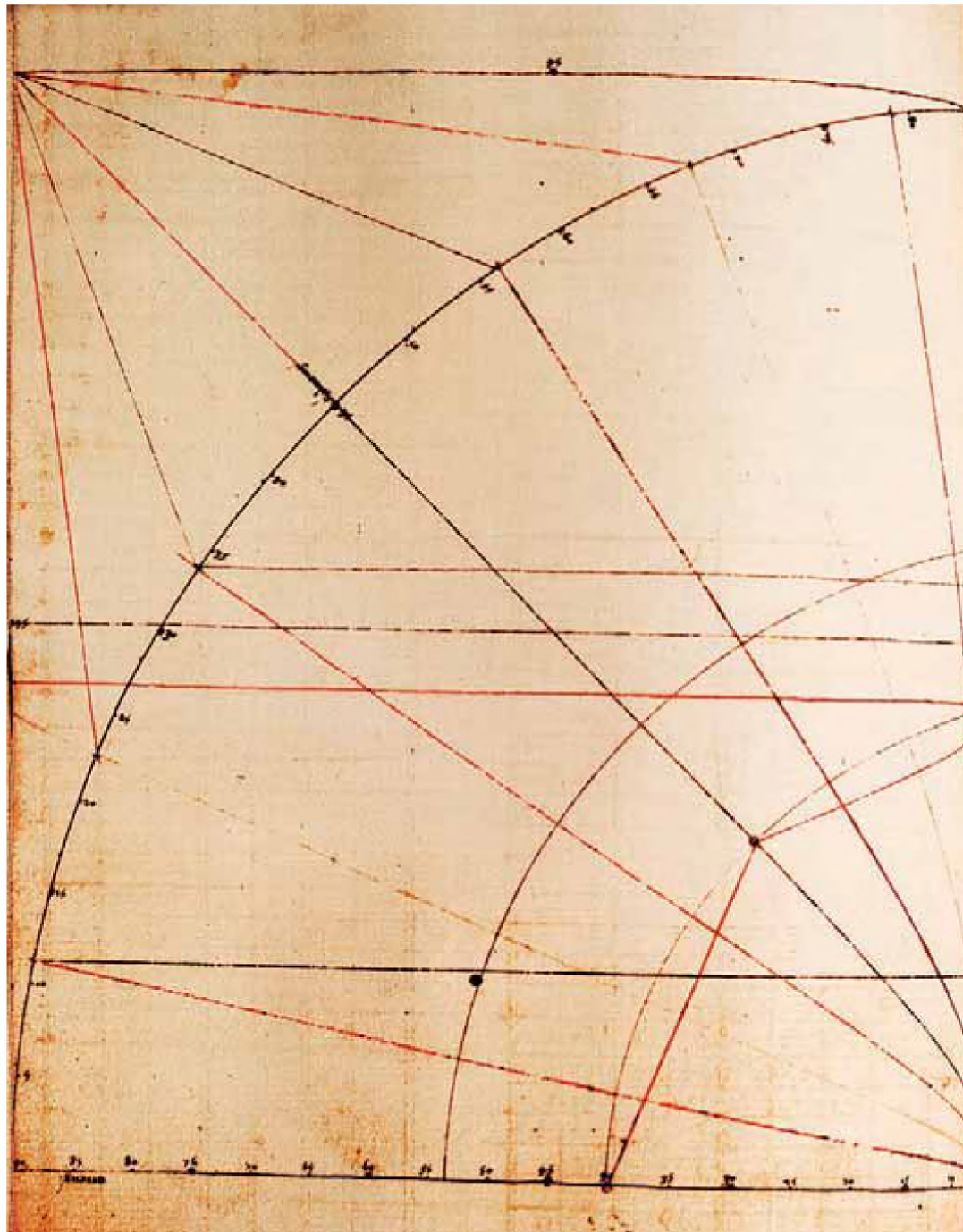
Other early sources attest to Columbus's abilities as a cartographer: Andrés Bernaldez, a close acquaintance of Columbus, soberly asserted in *Historia de los Reyes Católicos Don Fernando y Doña Isabel* (completed 1513) that Columbus was "a man of very great ingenuity, not very well read, [but] very well versed in the art of Cosmography and of dividing up the world."¹⁰⁰ Hernán Pérez de Oliva, who in *Historia de la inuencion de las yndias* (completed in 1528) described Columbus as "barely trained in letters but very greatly trained in the art of navigation," also believed that, upon Columbus's arrival in Portugal, "where a certain brother of his [i.e., Bartholomew] painted the images of the world used by mariners," Columbus had "learned from him all that can be learned by means of painting [i.e., by means of drafting maps]."¹⁰¹ Gonzalo Fernández

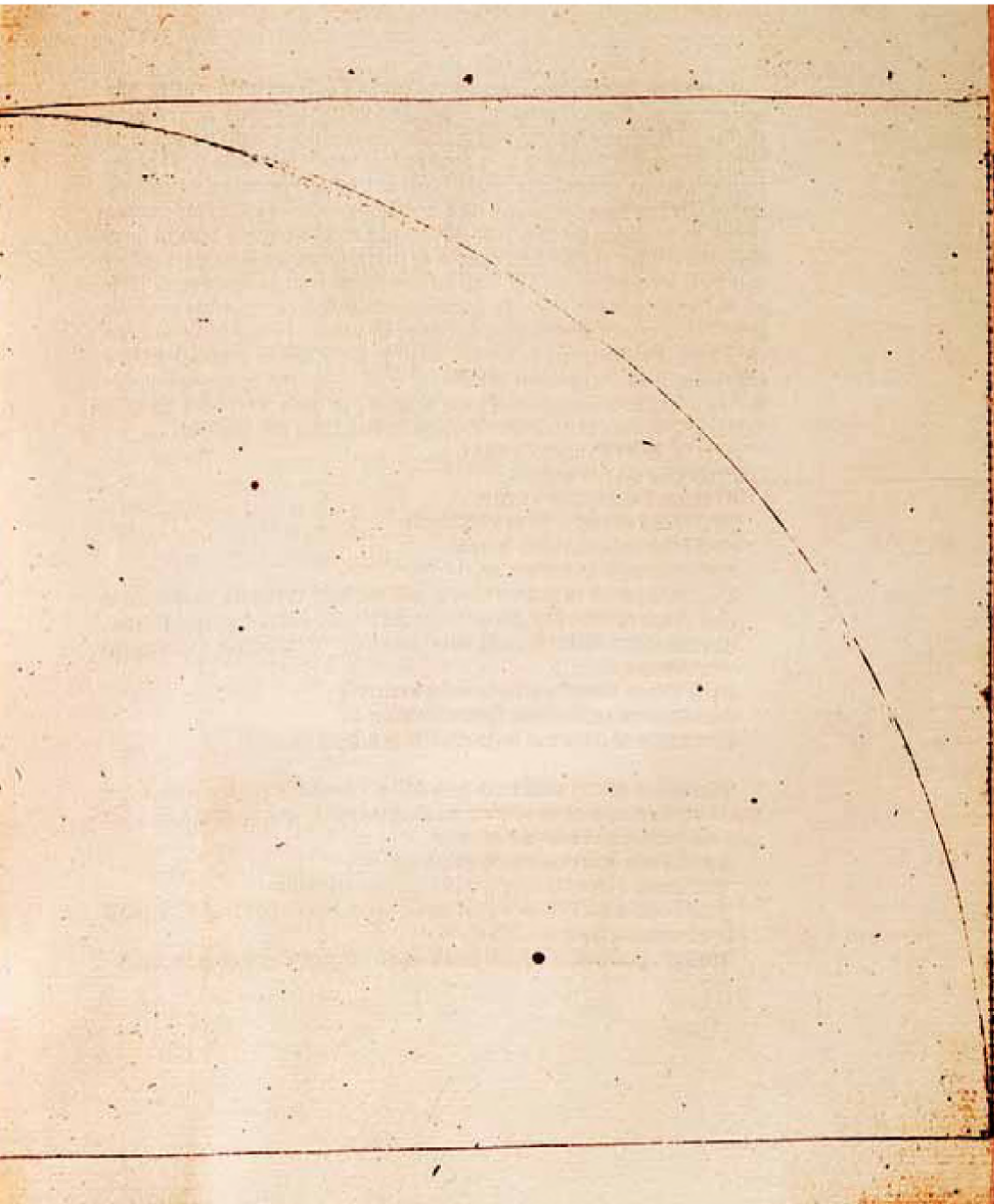
de Oviedo, who hailed Columbus as “the first inventor and discoverer and admiral of these Indies,” claimed in the first part of *Historia general y natural de las Indias* (1535) that Columbus was “well read and learned” in what the official chronicler of the Indies calls the “science” of “navigation and cosmography.”¹⁰² Columbus’s son Ferdinand, who boasts a distinct preference for tying Columbus’s abilities to studious reading, asserted for his part that, “because Ptolemy says at the opening of his *Geography* that no one can be a good cosmographer unless he also knows how to draw, [Columbus] learned how to draw the earth and configure geographical bodies plane and round.”¹⁰³ Francisco López de Gómara even believed in *Historia general de las Indias y conquista de México* (1552) that Columbus had long displayed a talent as a master or teacher in the art of drawing nautical charts, and that his primary reason for moving to Portugal in the first place had been to inform himself of Portugal’s discoveries in Atlantic Africa, “so that he might better draft and sell his charts.”¹⁰⁴ And Bartolomé de las Casas assures us in *Historia de las Indias* that during the years of penury that accompanied Columbus’s lobbying in the court of Castile, he had been reduced to supporting himself by recourse to “the industriousness of his great ingenuity and the labor of his hands, making or drawing nautical charts, which he knew very well how to make . . . [and] selling them to navigators.”¹⁰⁵

The few surviving sketches thought to be in his hand do bear out such laudatory assessments of Columbus’s draftsmanship: the reticular arrangement of the northern hemisphere attached to the opening folios of d’Ailly and Gerson’s *Tractatus*, the reticulated planisphere drafted on the blank folios of Piccolomini’s *Historia rerum ubique gestarum*, and the devastatingly simple sketch of the island of Hispaniola (Haiti) preserved today in the Palacio de Liria in Madrid—the only fragment to have survived of the original *Diario* (figs. 3.5, 3.6, and 3.7).¹⁰⁶ Some still believe that the extraordinary calfskin in the Bibliothèque Nationale in Paris bearing a portolan chart and an island-shaped *mappamundi* once attributed to Columbus may at least have indirectly inherited some of its cartographic peculiarities from Columbus on the brink of the discovery; however, apart from displaying the huge southward reach of Portugal’s discoveries in Atlantic Africa (all the way down to *Cabo Redondo* in the case of the portolan, and to *Cabo de Buena Esperanza* in that of the *mappamundi*) these maps betray no traces of transatlantic ambition (fig. 3.8).¹⁰⁷

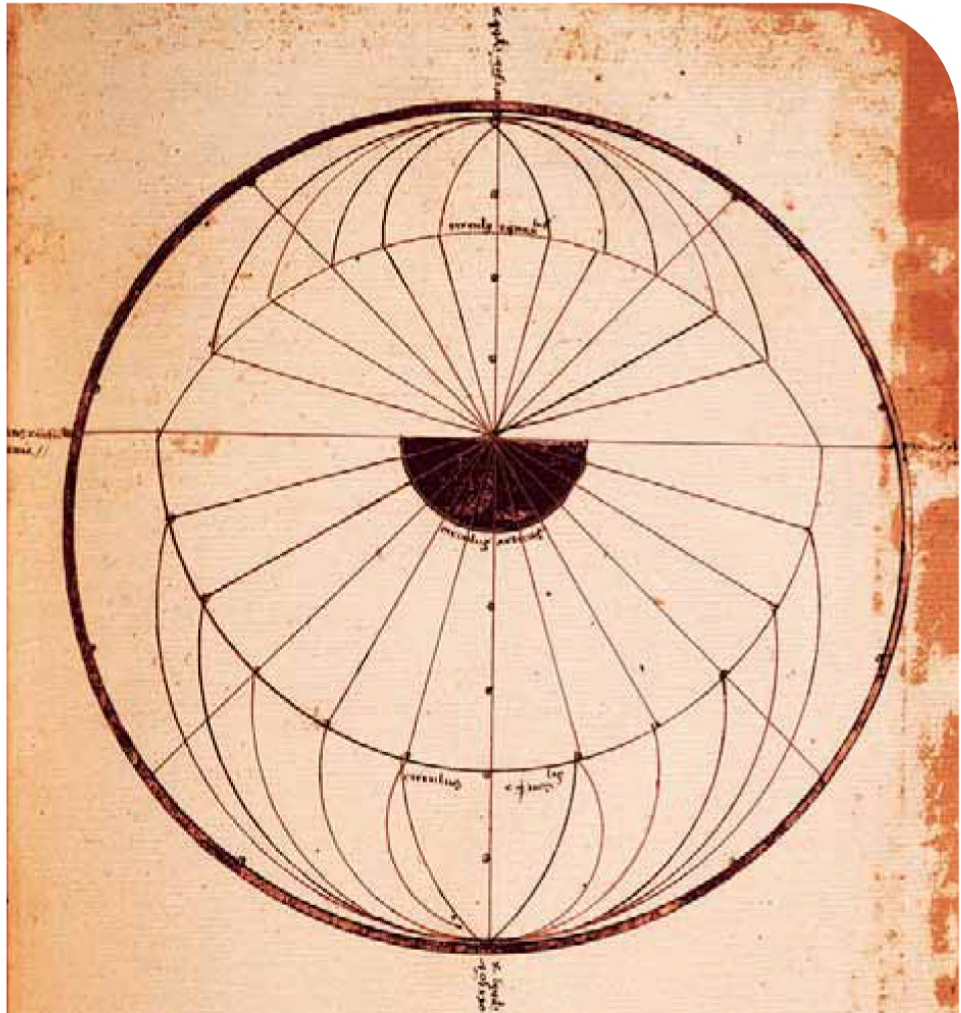
Of the few cartographic works that have been associated with Columbus, one more set of maps deserves mention, even though the maps date from the end of Columbus’s

3.5 Columbus's reticular arrangement for the northern hemisphere. From Pierre d'Ailly and Jean Gerson, *Tractatus de ymagine mundi et varia ejusdem auctoris et Joannis Gersonis opuscula* (1480–1483), *Tabula Americae*, facs. no. 852 (Madrid, 1990), 5v–6r. Courtesy of the Institución Colombina, Biblioteca Colombina, Seville, Spain; and Testimonio Compañía Editorial, Madrid, Spain.

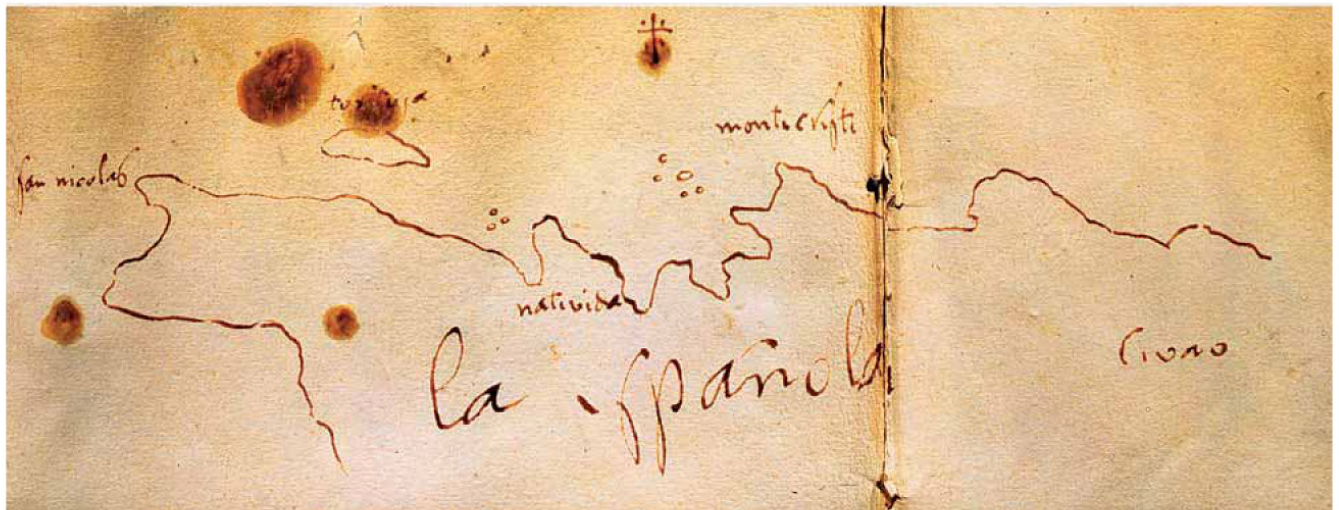




3.6 Columbus's reticulated planisphere. From Aeneas Sylvius Piccolomini, *Historia rerum ubique gestarum: Cum locorum descriptione non finita Asia Minor incipit* (1477), *Tabula Americae*, facs. no. 186 (Madrid, 1991), appended booklet, 5r. Courtesy of the Institución Colombina, Seville, Spain; and Testimonio Compañía Editorial, Madrid, Spain.



career, about 1506, and even though the originals appear to have been drafted by Bartholomew in his brother's name. Upon Columbus's return from his fourth voyage in 1504, having failed to find a passageway from the Caribbean basin into what he believed would be the inner sanctum of the Indian Ocean, and aware that he could never again return to full grace with the Crown, Columbus appears to have sent his brother Bartholomew to Italy with the aim of enlisting the pope's assistance in future ventures. It is from this final period of Columbus's life that we have a copy of the so-called *Lettera*

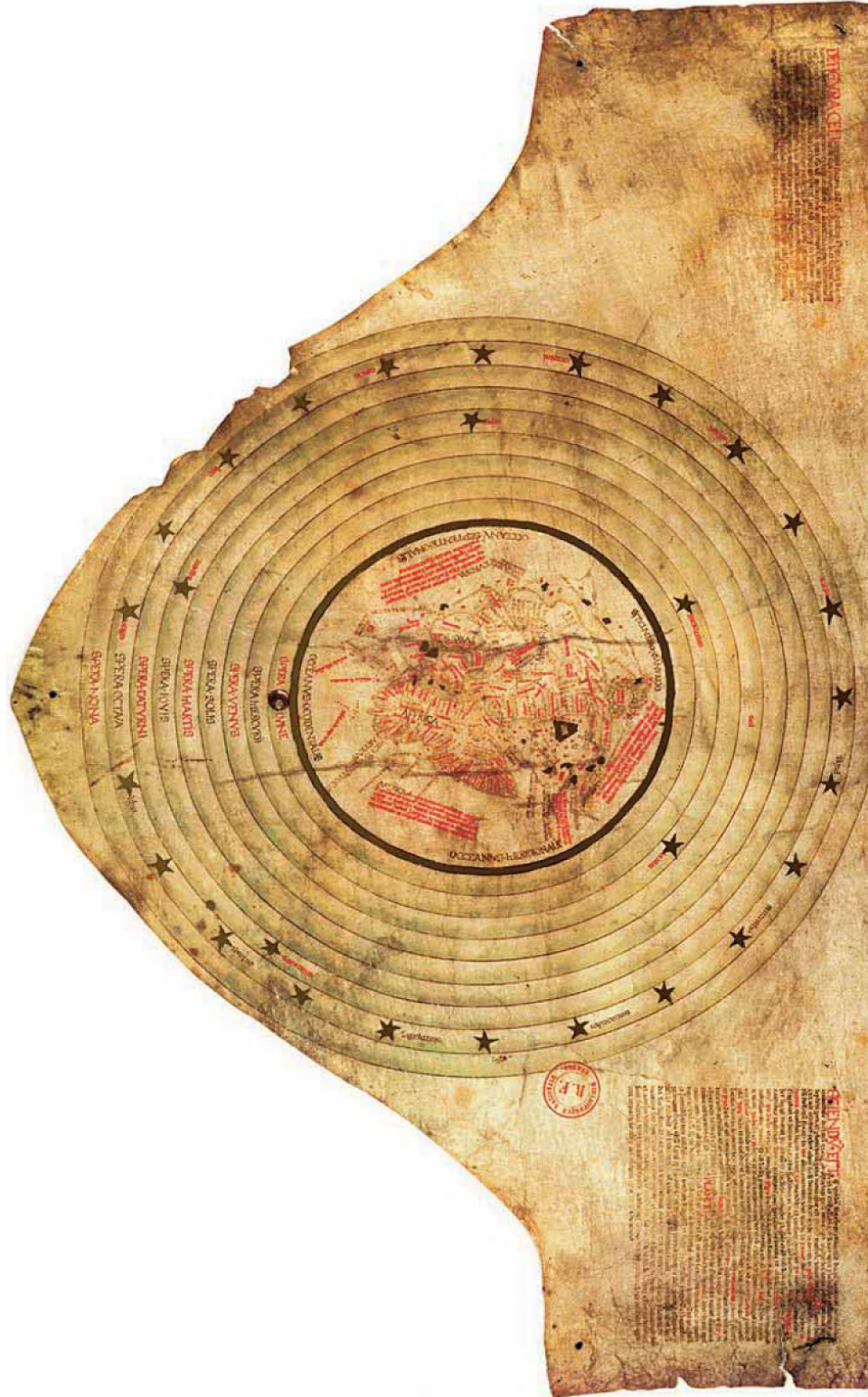


rarissima (7 July 1503), which recounts the disastrous events of the fourth voyage, as well as three geographical sketches derived from Bartholomew's documents, in Alessandro Zorzi's *Informazione di Bartolomeo Colombo della Navegazione di ponente et di garbin di Beragua nel Mondo Novo*.¹⁰⁸

The first two sketches, which should be read in horizontal contiguity with each other, draw on a graduated matrix provided by Ptolemy's *Geography* and are distinctly localized on the band comprehended by the Tropic of Cancer (24° N) and the "Linea Capricornii" (24° S) (figs. 3.9 and 3.10; and see fig. 3.11). In line with Columbus's preference for Marinus of Tyre's measurements for the breadth and width of the inhabited world over Ptolemy's, the author of these two sketches portrays the newly discovered landmass of Santa Crose and the Antipodi (South America), as well as Aethiopia Interior (sub-Saharan Africa) and the eastern continental coastline on which Ptolemy had once located the port of Kattigara (marked on the second map by the legends "Catticara sinarum statio" and "Sinarum situs"), as extending all the way to and just beyond Marinus's limit for the inhabited world—the Tropic of Capricorn. And warning us that, "according to Marinus and Columbus, [the distance] from Cape Saint Vincent to Kattigara measures 225 degrees [or] 15 hours," the cartographer makes room beyond the terra incognita originally located by Ptolemy to the east of Kattigara for the continental coastline recently explored by Columbus during his fourth voyage

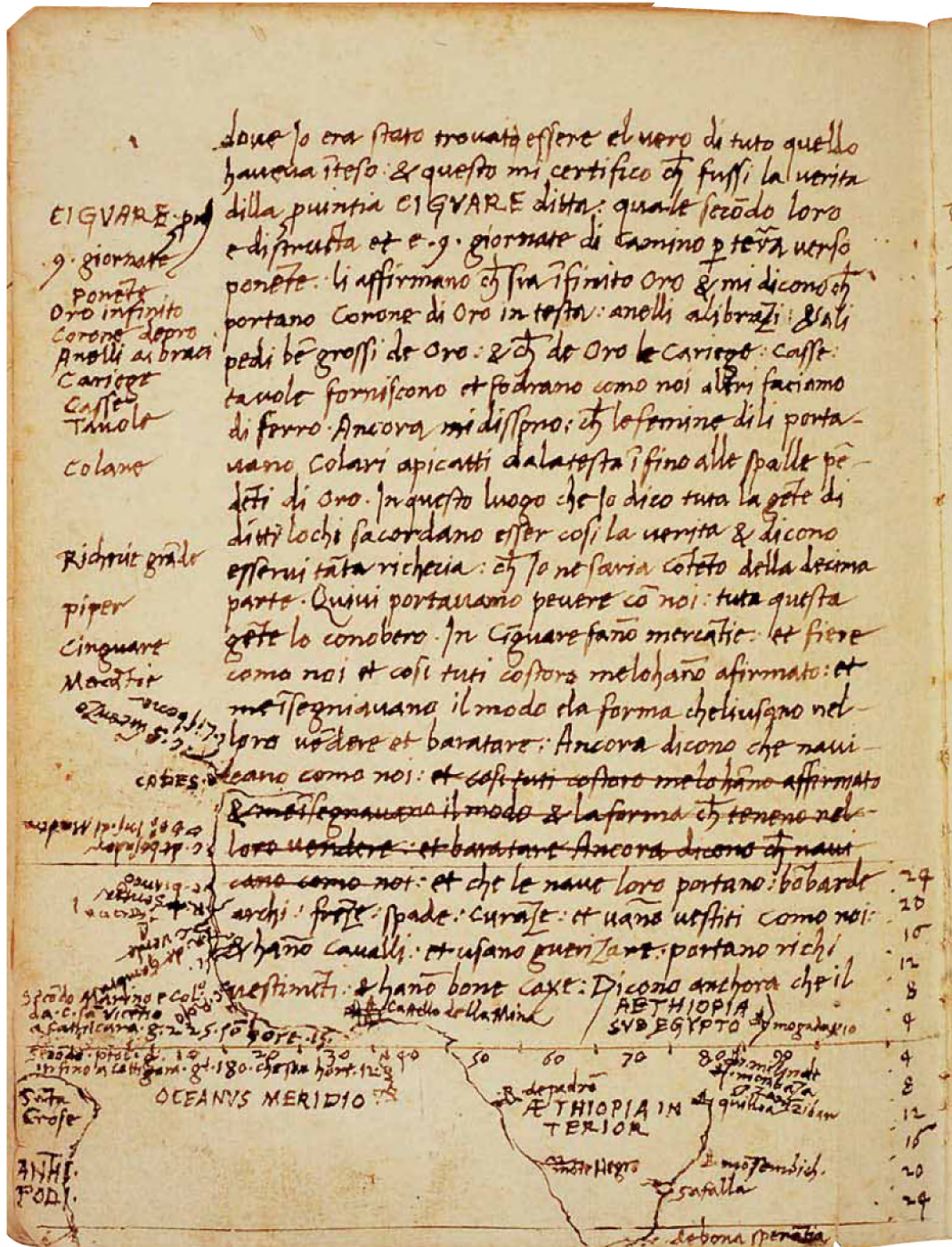
3.7 Columbus's sketch of northern Hispaniola (Haiti), 1493. Courtesy of the Archive of the House of Alba, Palacio de Liria, Madrid, Spain.

3.8 Portolan chart and *mappamundi* once attributed to Columbus, about 1492. Courtesy of the Bibliothèque Nationale, Paris, France.





3.9 Sketch of Africa and of the land of Santa Crose and the antipodes, based on a design by Bartholomew Columbus. From Alessandro Zorzi, *Informazione di Bartolomeo Colombo della Navegazione di ponente et garbin di Beragua nel Mondo Novo* (about 1506), Collezione Alberico, no. 81, 56v. Courtesy of the Biblioteca Nazionale Centrale, Florence, Italy.



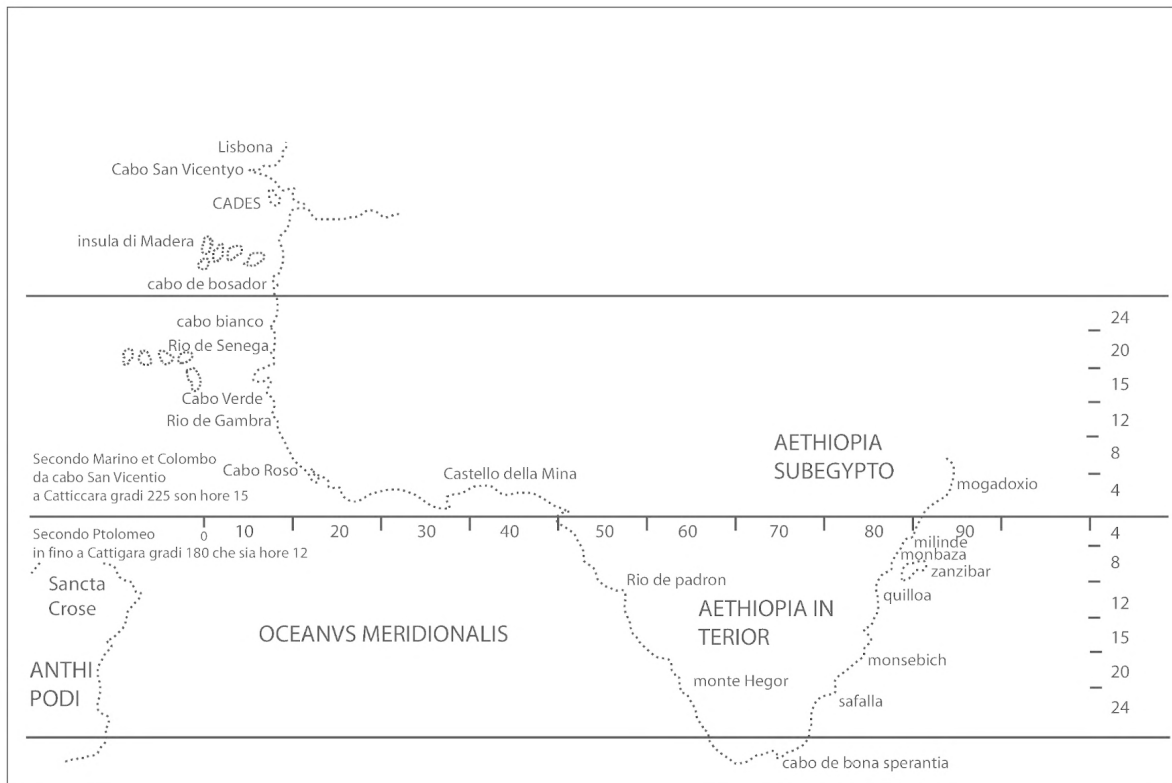
mare bolle nella dicta p[ar]te di Ciaguare. et che di
 giorni x. uic il fiume GANGES appellato pare che q[ue]sto
 terre s[on]o co[n] BERAGNA como fra Tortosa co[n] fonte Ra-
 bia: ouer p[er] Venetia. Quando lo mi parti da CARRA-
 BARY: et agens i questi lochi q[ue] ho dicto: trouai le p[er]te
 a quel medesimo uso: saluo ch[è] li specchi de oro ch[è] haueuano
 li lauano p[er] tri sonagli de p[er]lato p[ur]o. Anchora ch[è]
 pesalino x. l. ouer xv. ducati luno: i tutti suoi usi sono como
 quelli della Spagnola Infula. Lo Oro ricogliono co[n] altra
 arte de q[ue] luna et l'altra no habbia a fare cu[n] l'arte u[er]a.
 Questo ch[è] lo ho dicto e quanto ho itto da q[ue]ste gente. Ma hora
 uicetoro di quanto ho uisto d[ic]to. Lo ano. 1499 nauicai i
 24. gradi uerso ponete i termino di 6. hore. ch[è] no li fu
 fallo: p[er] ch[è] i quella hora fu Ecclipsis: el sole tra i libra
 et la luna i uicete. Tutto q[ue]sto ch[è] lo p[er] parole itese da q[ue]ste
 gente Za lo hancuo lo saputo logamente p[er] scripto. p[er] h[ab]le
 mea credete lei haure be satisfato a Marino: e adese
 si troua sua scriptura be p[er] p[er] h[ab]le dal uero. p[er] tholemeo
 mete catigara a. 12. hore logi dal suo Occidete.
 quale affirmo essere sopra capo Sato uicete i porto gallo
 gradi 2. 1/3. Marino i. 15. hore co[n]traente la terra: Questo mar
 mo Marino i Ethiopia scriue sopra la linea equinoctiale
 i. 24. p[er] de. 24. gradi. Et adese ch[è] li portogalesi li nauicano:
 lo trouano esse uero p[er] tholemeo disse ch[è] latera p[er] uicete
 Et il primo termino: ch[è] no abassa piu de. 15. gradi.

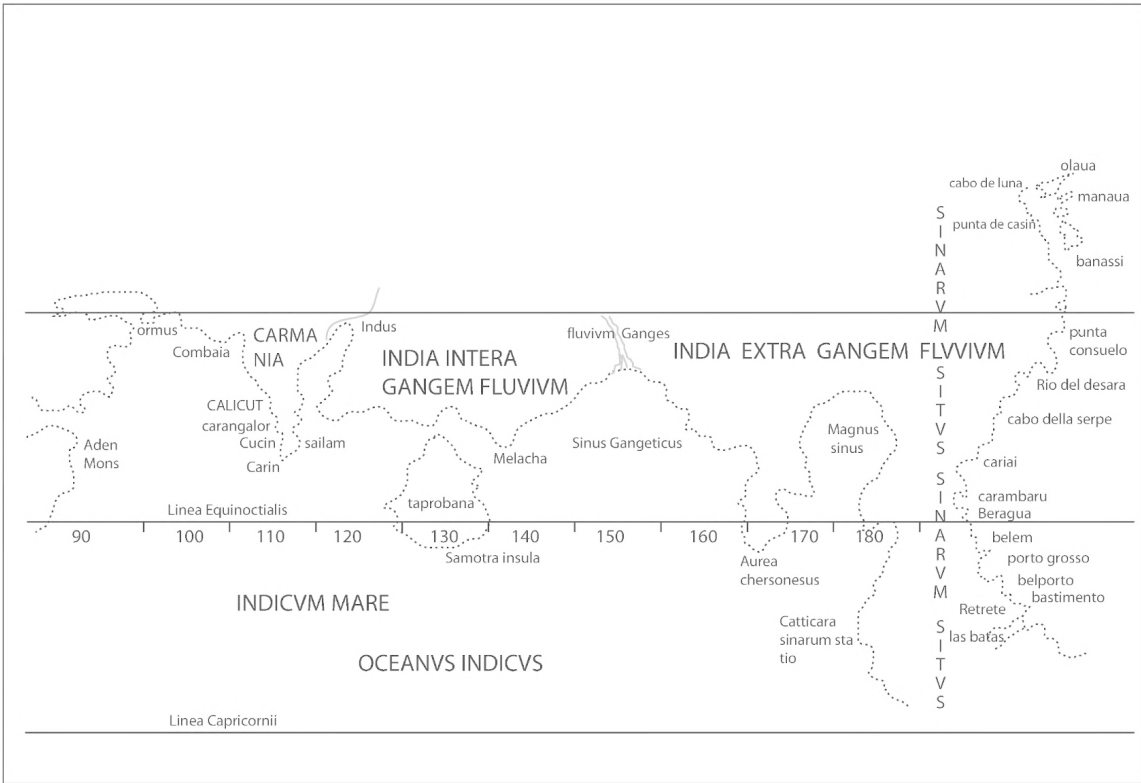


3.10 Sketch of the extended basin of the Indian Ocean with the coastline presumably explored by Columbus on his fourth voyage, based on a design by Bartholomew Columbus. From Alessandro Zorzi, *Informazione di Bartolomeo Colombo della Navigazione di ponente et garbin di Beragua nel Mondo Novo* (about 1506), Collezione Alberico, no. 81, 57r. Courtesy of the Biblioteca Nazionale Centrale, Florence, Italy.

Wey Gómez, Nicolás. *The Tropics of Empire: Why Columbus Sailed South to the Indies*. E-book, Cambridge, Mass.: The MIT Press, 2008, <https://hdl.handle.net/2027/heh31248.0001.001>. Downloaded on behalf of 18.118.10.141

3.II Outlines after figs. 3.9
and 3.10, prepared by the author.





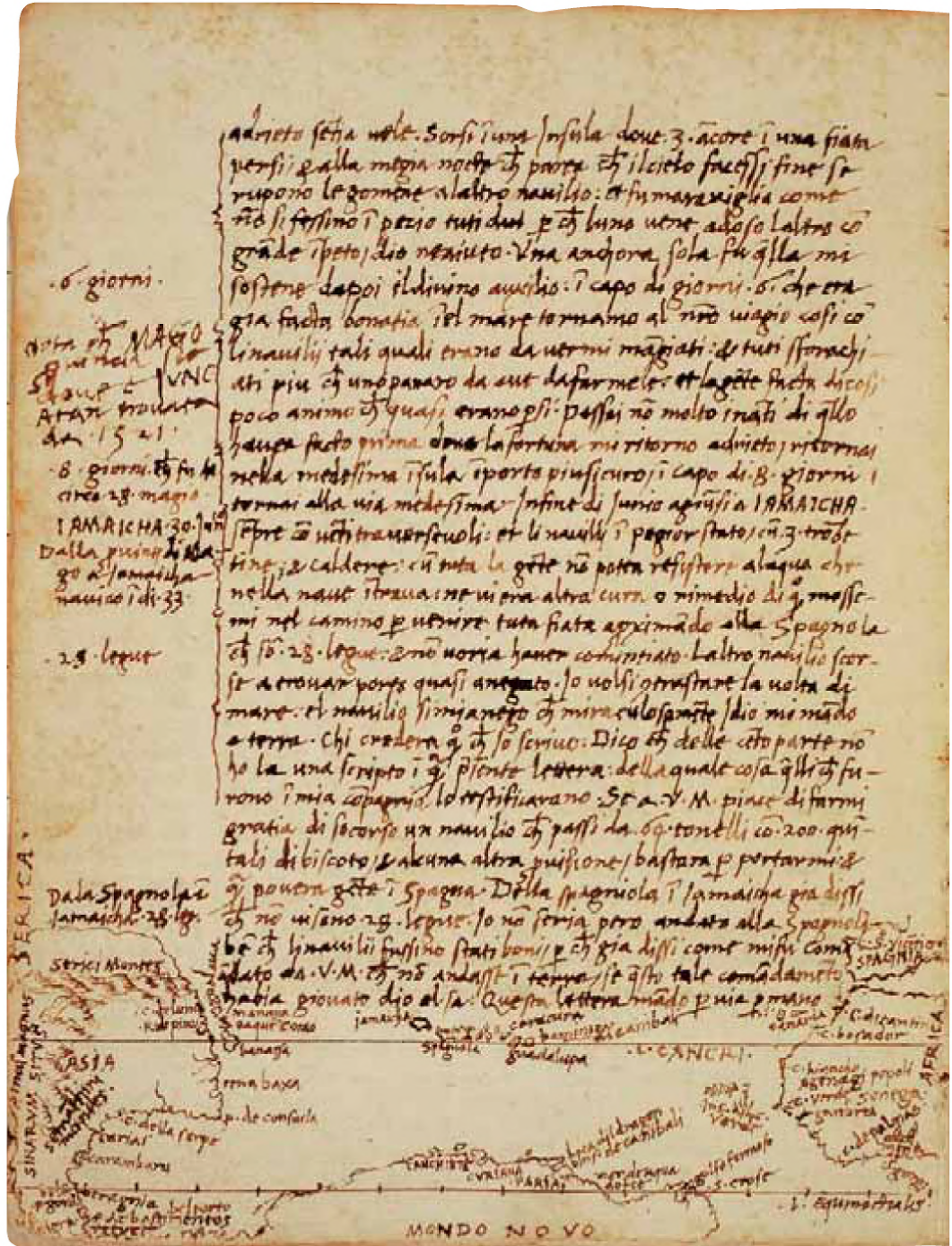
(i.e., Central America). This easternmost coastline is unequivocally construed as part of India beyond the Ganges (“India extra Gangem fluvium”) and as the region of the Sinai (“Sinarum Situs”), which is how the Chinese had come to be known from the south, along the trade routes of the Indian Ocean. And it runs all the way from a cape designated “Cabo de Luna”—which may signal Columbus’s stubborn conviction that Cuba’s inner shores connected beyond the Bay of Cortés with the coast of Central America—down to a bay or a truncated sea inlet incorrectly labeled “Las Barbas”—which appears to signal Columbus’s frustrated search for a passage to the Indian Ocean’s inner sanctum through the Mulatas archipelago, today near the Panamanian Gulf of San Blas. The question is also left open on these two sketches as to whether the coastline explored by Columbus on his fourth voyage is continuous with the newly discovered landmass of Santa Crose or the Antipodi, that is, with South America as known to the Portuguese in Brazil (on the southwesternmost corner of the first sketch). What does remain exceedingly clear on these two sketches is that Columbus’s exploration of the coast of Central America is construed by their author as part of a broader process of exploration that had largely taken place under the belt of the tropics, all the way from the Canaries and Cape Bojador to the easternmost reaches of India *extra Gangem*.

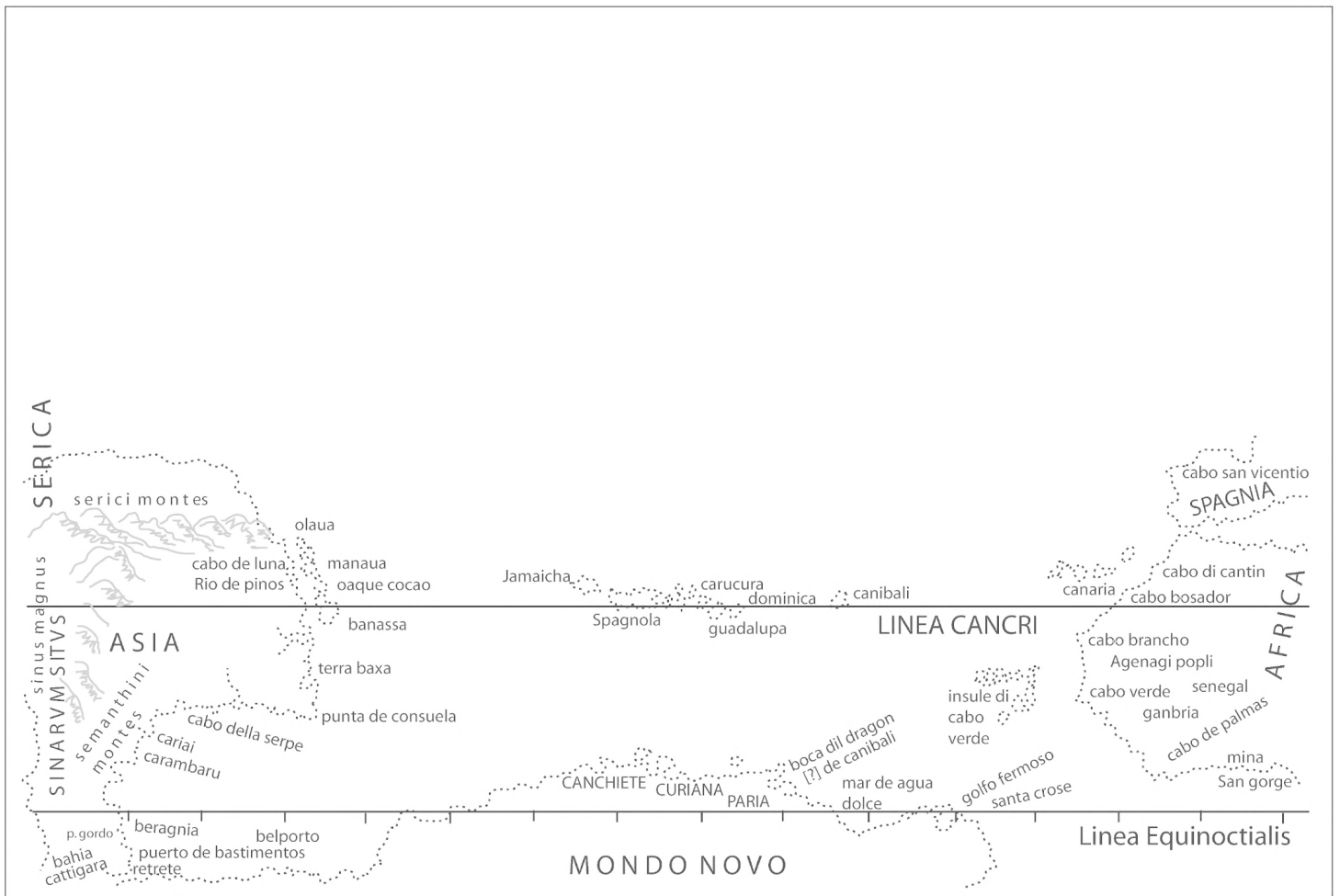
The third sketch represents the newly emerging Atlantic world between the ends of the East and the West (fig. 3.12). Predicated once again on a graduated matrix of Ptolemaic provenance, this sketch is now distinctly centered on the half-band comprehended by the Tropic of Cancer (“Linea cancri”) and the equator (“Linea equinoctialis”). It incorporates the discoveries conducted by the Portuguese in Atlantic Africa all the way from Cape Bojador to São Jorge da Mina (“Cabo Bosador” and “Mina San Gorge,” respectively), as well as those in Brazil (“Santa Crose”), with the discoveries conducted under the Castilian banner across the Atlantic—mainly those places found by Columbus in the course of his four voyages. Insofar as it may be thought to reflect Columbus’s composite understanding of the territories he had discovered, this sketch gestures toward Cuba, encoded here by “Cabo de luna” in today’s Bay of Cortés, as part of an Asiatic mainland reaching toward the northwest in the direction of the Seres or Silk People (“Serica”), the name by which the Chinese had come to be known by way of the north, along the inland routes of the silk. The Cuban “mainland,” along with the islands of the Greater and Lesser Antilles discovered during the first and second voyages (marked here as “Jamaicha,” “Spagnola,” “Carucura,” “Guadalupa,” “Dominica,” and “Canibali”) stand directly across from the “Canaria,” just outside or across from

the Tropic of Cancer—perhaps still echoing Columbus’s original fear of disclosing to the Crowns of Castile and Portugal that he had ventured below the latitude of the Canary Islands on his first voyage. In the middle of the Atlantic, toward the equator, stands a distinctly antipodal mainland designated “New World” (“Mondo novo”), which includes the “Sea of Fresh Water” found by Columbus at the mouth of the Orinoco River, as well as the Gulf of Paria on today’s Venezuela and the “Mouth of the Dragon” between the Paria Peninsula and the island of Trinidad (“Mar de agua dulce,” “Paria,” and “Boca dil dragon,” respectively). This antipodal mainland no doubt corresponds to what Columbus had imagined as “infinite land that is to the south”—what he had hailed, when speaking of his third voyage to the equatorial region, as a near-miraculous find in “the new heaven and earth that had until then remained hidden.”¹⁰⁹ On the western margin in this sketch, the cartographer also tried to reconcile the Central American coastline explored by Columbus on his fourth voyage with the easternmost reaches of Ptolemy’s Asia: a sea inlet or strait labeled “Retrete” (perhaps Puerto Escribanos in today’s Panama) gestures toward the Ptolemaic Kattigara (“Bahia cattigara”), signaling once again Columbus’s belief that somewhere between the Cuban “mainland” and the land of Paria a passage would be found into the Indian Ocean. We may never know the extent to which the author of this sketch altered the contents of the documents that Bartholomew is supposed to have brought with him to Rome.¹¹⁰ Were Bartholomew’s own sketches copied straight onto the folios of Zorzi’s *Informazione*, or did they merely supply raw information used in creating a substantially different set of maps? And if these sketches do faithfully represent Columbus and his brother’s picture of the region Columbus had explored in the course of his transatlantic career, to what extent do they reflect his identification of the place he was originally aiming for? Nonetheless, whoever the author of this sketch might have been, he clearly conceived of the new Atlantic as a world weighted toward the precious belt of the tropics.

A final word is in order on the subject of India’s nature in the geographical tradition preceding the discovery—much of which was established by the earliest known Greek and Latin Indographers. Among these early authors, Herodotus appears to have been the first to speak of India as a fabulously wealthy gold-bearing region whose vast scorching deserts were guarded by gold-digging ants bigger than foxes.¹¹¹ According to Herodotus, India’s inhabitants harvested the gold away from these giant ants by waiting for the high noon sun to drive them underground. India’s mountains and rivers were also

3.12 Sketch of Asia, Africa, and the *Mondo novo*, based on a design by Bartholomew Columbus, with outline prepared by the author. From Alessandro Zorzi, *Informazione di Bartolomeo Colombo della Navigazione di ponente et garbin di Beragua nel Mondo Novo* (about 1506), Collezione Alberico, no. 81, 6ov. Courtesy of the Biblioteca Nazionale Centrale, Florence, Italy.





great sources of gold.¹¹² According to Photios's *Library*, Ctesias additionally described gold-bearing Indian wonders such as a "fountain that filled every year with liquid gold from which a hundred pitcherfuls [were] drawn,"¹¹³ as well as very tall silver- and gold-bearing mountains guarded by griffins.¹¹⁴ Ctesias's account of these and other marvels, Photios warns us, omitted "many far more marvellous things, for fear that those who had not seen them might think that his account was utterly untrustworthy."¹¹⁵ Isidore would later add dragons and oversized human monsters to the list of treasure guardians, an association one later sees in Columbus's claims that various gold-bearing quarters of his Indies were inhabited by ferocious man-eaters.¹¹⁶ Like Ctesias, the Indographers Megasthenes and Diodorus Siculus imagined India's soil rife with most numerous veins bursting with gold, silver, copper, iron, and tin.¹¹⁷ Strabo, for his part, whose distaste for exaggeration led him to speak ill of Herodotus's and Ctesias's ants, could not help but cite Megasthenes' description of precious stones "dug up of the color of frankincense and sweeter than figs or honey."¹¹⁸ And Pliny, who spoke of Sri Lanka as an island far away, "relegated from the orb," said that it was even more abundant in gold and pearls than the mainland and that its great prodigality in gold, silver, pearls, and precious stones made it a place where luxury was carried "to a far higher pitch than ours."¹¹⁹ On the abundance of pearls, Arrian tells his readers that Heracles had not known them before finding them in India and that pearls there were worth three times their weight in pure gold.¹²⁰ Solinus later cited even more exotic minerals like diamonds, magnetic iron ore (or lodestone), and a white marble known as lycnite.¹²¹ Isidore would add a long list of precious and semiprecious stones, including beryl, chrysoprase, diamonds, carbuncles, and a variety of coal known as lignite.¹²² Needless to say, Columbus's writing displays abundant references to a marvelous mineral bounty, not just to the inexhaustible gold deposits he thought would be harvested from the mountaintops, mines, and rivers of his Indies, but also to its abundant pearls and to "countless" other precious metals and stones.

As for plants, the territories of India, according to Megasthenes, "possess huge mountains that abound in fruit-trees of very kind, and many vast plains of great fertility,"¹²³ very numerous plants, most of which grew spontaneously from the soil,¹²⁴ and, most importantly, two annual harvests.¹²⁵ The inhabitants had "abundant means of subsistence,"¹²⁶ so much so, that in "primitive times" they had subsisted "on such fruits as the earth yielded spontaneously."¹²⁷ Diodorus Siculus offers perhaps the most vivid portrayal of nature's nurture of peoples who would have had no need to worry or toil:

“India has many lofty mountains that abound in fruit trees of every variety, and many large and fertile plains, which are remarkable for their beauty and are supplied with water by a multitude of rivers,” all of which yielded vast amounts of millet, rice, and so many sorts of fruit that, “to write about them would be a long task.” Thanks to all this, “a famine has never visited India or, in general, any scarcity of what is suitable for gentle fare.” And by reason of the fact that the land enjoyed every year two summers and two harvests, Indians never lost anything, “since the fruit of one or the other sowing comes to maturity.” In many cases it was not even necessary to till the ground, since nature automatically produced enough for everyone: “The fruits also which flourish wild and the roots which grow in the marshy places, by reason of their remarkable sweetness, provide the people with a great abundance of food.”¹²⁸ Nature’s overweening care not only supplied the vegetable basis for a thriving food chain, but it also created all sorts of monstrous vegetation.

Strabo, citing Onesicritus, reports “numerous strange trees,” including gigantic ones “whose branches have first grown to the height of twelve cubits, and then, after such growth, have grown downwards, as though bent down, till they have touched the earth.”¹²⁹ Apart from producing coveted spices like “cinnamon, nard, and other aromatic products,” India was a country “abounding in herbs and roots both curative and poisonous.”¹³⁰ According to Pomponius Mela, India was so rich that “honey drips from the leaves, trees bear wool, and rafts of split bamboo even convey, like ships, two persons at a time, some even conveying three at a time.”¹³¹ And Pliny reported trees “so lofty that it is not possible to shoot an arrow over them,” and the soil was so rich that “if one is willing to believe it, squadrons of cavalry are able to shelter beneath a single fig-tree.”¹³² Isidore, for his part, marvels at the “perennial” nature of tree leaves on the Indian island of Tile.¹³³

Columbus’s Indies were themselves, as one reads in his 15 February 1493 letter to Santángel announcing the discovery, “fertile to an unthinkable degree” (*fertilissimas en demasiado grado*).¹³⁴ Like the early Indographers, he marveled at its biannual harvests; at the fact that its trees and shrubs never lost their foliage; and at the overwhelming scale of its mountains, fields, rivers, and basins—all of which amounted to an overindulgent nature that spontaneously and continuously generated the greatest sizes, quantities, varieties, and qualities of plants imaginable. And the natural products to be had from these plants ranged from goods Columbus thought he recognized—such as aloe, cinnamon, cotton, ginger, honey, incense, mastic, pepper, sandal, timber, and wax—to

entirely alien goods that prompted Columbus to lament his speechless ignorance, even as he wildly speculated that they could be put to the broadest range of uses—from shipbuilding to dying textiles, cooking, and curing disease.¹³⁵ Like the early Indographers, Columbus also marveled at the vegetable monstrosity of his Indies—from wild grass that grew “taller than the saddles on our horses,” to skyscraping or wide-spanning trees “as different from ours as the day is from the night” (*tan disformes de los nuestros como el día de la noche*), and to enormous “fruit of a thousand kinds, and all different from ours and different in flavor [*diversas de las nuestras y del sabor*], but no less precious.”¹³⁶

Nature’s profligacy and gigantism extended even to those vegetable products that were soon introduced to the island of Hispaniola on the second voyage. Columbus’s accounts of the first efforts to colonize the newly discovered territories attest to the carefulness with which he monitored the testing of known species of edibles on foreign ground. In the same letter where Columbus triumphantly informed the Catholic Monarchs that his Indies yielded two harvests annually, he explained that

the orchard seeds that we brought with us all germinated within three days, and we were able to eat vegetables within fifteen days. And any other seeds that were to be planted would all do the same. . . . The fruit pits we brought were all born within seven days, and so are the vine shoots born that were brought from Castile. They were planted and, within a month, they grew . . . clusters all over. The same with the sugar cane. Melons and pepins and cucumbers bore fruit within forty days of being planted, and they ripened, and we now have them every day—and the best melons that anyone has ever seen! They were planted in January, and by the beginning of March, we were already eating them. And I understand that we will have them all year long, as well as calabashes. I ordered very little wheat to be planted, because we lacked the right tools and it was winter [i.e., December] when we came, but for one *fanegada* of land planted, a farmer can expect fifty times the yield. The said wheat germinated very quickly, and on Passover, a great big bundle of it was brought over to the church, all spiked out and seeding. And the same goes for chickpeas and lima beans.¹³⁷

Indeed, the chickpeas and other legumes imported on the second voyage for the sustenance of a colonial population that could hardly stomach “Indian” staples were “far larger than in Castile.”¹³⁸

Not surprisingly, a place where every sort of produce came in the greatest sizes, quantities, varieties, and qualities possible was a place that did not “know” what it meant to work the land or to accumulate goods in order to survive or to sort through difficult times. Echoing the early Indographers in one of the *carta-relaciones* of the second voyage (26 February 1495), a Columbus already well on his way to milking Hispaniola and its peoples for all that they had, silently justified the massive land grab that could have been expected to follow the arrival of his colonizing fleet on the island by complaining that the Indians were not at all concerned with mining or planting or any sort of physical labor, because “they are lazy to the greatest degree” (*perezosos en grandísima manera*).¹³⁹ The *caciques*, or local lords, had presumably told Columbus that they had no private property, “because the land is so huge and fertile that there would still be land left even if there were a hundred times more Indians.”¹⁴⁰ Years later, on the third voyage, in a letter drafted from Hispaniola in the very heat of the colonists’ rebellion led by Francisco de Roldán (May 1499), Columbus complained in the following terms about those colonists who had risen with Roldán under the pretext that they had no food provisions from Spain: “The other people [i.e., the colonists who had remained loyal to the Columbus brothers] plant, and they already have many provisions, and they have grown familiar with the soil and have begun to enjoy the fruit of its nobility and fertility, very much to the contrary of what was said about it. *For I believe that there is no land in the world better suited for lazy idlers, or better suited for anyone who wishes to build a fortune.*”¹⁴¹ Columbus’s Indians were the “indolent” and, therefore, “undeserving” tenants of a land that, he supposed, now really ought to belong only to those wishing to exploit and transform its innumerable riches.

The early catalog of India’s marvels and monstrosities was also exorbitantly rich when it came to animal species. Herodotus, who warns us that “somehow the furthest parts of the world have the finest things in them,” reported that “all living things, four-footed and winged [were] far bigger than elsewhere, except for the horses.”¹⁴² In his own catalog of Indian gigantism, Ctesias spoke of elephants that knocked down walls, primates with tails four cubits long, cocks of very large size, parrots as large as hawks,¹⁴³ and monsters like the “martikhora,” with a “face like a man’s, skin red as cinnabar, large as a lion. Three rows of teeth, ears and light-blue eyes like those of a man; its tail like that of a land scorpion.”¹⁴⁴ Even domestic animals were slightly monstrous in shape and reproductive habits: “Indian sheep and goats are larger than asses, and as a rule have four young ones, sometimes six, at a time.” Wild asses themselves were the size

of horses.¹⁴⁵ According to Megasthenes, Indian elephants were of “monstrous bulk,” and the soil provided such abundant herbage, that these elephants were far stronger than “those that are bred in Libya.”¹⁴⁶ And of Sri Lanka, which generally appeared to generate everything larger than India, Strabo reported “amphibious monsters . . . some of which are like kine, others like horses, and others like other land-animals.”¹⁴⁷ India’s tigers, according to Strabo, were “twice as large as lions, and so powerful that a tame one, though being led by four men, seized a mule by the hind leg and by force drew the mule to itself”; and there were “reptiles two cubits long with membranous wings like bats” that flew “by night discharging drops of urine, or also of sweat, which [putrefied] the skin of anyone who is not on guard.”¹⁴⁸ Isidore, for his part, reported battles between Indian elephants and dragons that lurked in the unbearable heat of fire spit out by mountains.¹⁴⁹ Columbus’s readers are likely to remember his own late additions to the catalog of marvelous and monstrous Indian beasts. Consider his rapturous description of the coral fish swimming off the Bahamian island of Fernandina (Long Island), “so different from ours that it is a marvel [*tan disformes de los nuestros ques maravilla*]; some shaped like roosters [or perhaps like fish called *dories*], of the finest colors in the world: in blue, yellow, red, and all other colors; as well as other fish colored in a thousand ways.”¹⁵⁰ Or the “flocks of parrots” he reports having sighted over the island of Isabela (Crooked Island), so huge and densely packed that they “obscure[d] the sun.”¹⁵¹ Or the three “mermaids” Columbus later sighted off the northern coast of Hispaniola, “who reared their heads high above the water but were not as beautiful as they are depicted, for their faces were somehow shaped like men’s.”¹⁵² Or, to cite an example from Columbus’s late career, the lycanthropic quadruped he identifies in his haunted account of the fourth voyage as “an animal that looked like a *gato paul* [i.e., a Polian cat], except that it was much larger and had the face of a man.”¹⁵³

It is to be expected that tropical nature’s quirky bounty should have also found ample expression in the human species described by the early Indographers. Herodotus, who equated the blackness of Indians with that of Ethiopians, claimed that “the seed they ejaculated into their women is not, like the rest of mankind, white but black, as their skin is.”¹⁵⁴ According to Ctesias, India’s population was so great as to be “almost greater than that of the whole world.”¹⁵⁵ And his contribution to the catalog of monstrous races to be found in India included black pigmies and a race of monsters that would significantly come to be cited by Columbus in his *Diario*—the “cynocephali,” dog-headed men who instead of speaking barked or made signs with their hands and fingers

“like the deaf and dumb,” and who subsisted on “raw meat”¹⁵⁶ and walked around with “tails above their hips, like dogs, but longer and more hairy.”¹⁵⁷ This monstrous race would become a popular icon in the teratology of later Christians, who fancied enemies of the faith—most often Jews or Saracens—as dog-headed monsters who “barked” incomprehensibly at the true religion.¹⁵⁸ We need not here specify the numerous races that authors like Megasthenes and Strabo contributed to Mediterranean geography’s catalog of monsters.¹⁵⁹ Suffice it to say that Pliny, who is most directly responsible for the proliferation of human monstrosities in the literature and iconography of the Latin West, spoke of “countless” races and cities in India.¹⁶⁰ And comparing India and Ethiopia, Pliny spoke of both of them, especially India, as a place where the monstrous races “have been made by the ingenuity of nature as toys for herself and marvels for us.”¹⁶¹ In a passage of *Naturalis historia* describing Ethiopians, we have an explanation for why tropical nature spawned monstrous peoples: “It is by no means surprising that the outermost districts of this region produce animal and human monstrosities, considering the capacity of the mobile element of fire to mould their bodies and carve their outlines.”¹⁶² Thus also Solinus, nick-named Pliny’s ape, would later preface his own account of the physical and moral monstrosity of Indians by explaining that those who lived in the southernmost reaches of the Indus River were “scorched” more than other peoples by the heat and that from that point on the color of men betrayed the sun’s “vigor.”¹⁶³

Once again, the dark skin of *all* “Ethiopians”—African or Asian—was considered by Mediterranean geographers to be the very mark of tropical monstrosity in humans. And its glaring absence in the Indies indubitably constituted a source of perplexity and vexation for someone like Columbus, who, having southed his way into a tropical expanse that he often compared to the Guinea he knew firsthand, had failed to find the black peoples now profitably being harvested as slaves by the Portuguese on the other side of the Atlantic. Nevertheless, Columbus did ultimately identify a convenient substitute for the blackness he had expected to witness in the inhabitants of his Indies—in the form of Ctesias’s most famous monster, the cynocephalus, whom Columbus may well have first come across during an early reading of John Mandeville’s *Travels*.¹⁶⁴ Thus it was on the outer shores of Cuba that “frightened” Indian informants are supposed to have “told” Columbus that, far in the direction of the southeast, “dwelled one-eyed men, and others with dogs’ snouts who ate men, and who, upon capturing someone, would disembowel him and drink his blood and slice off his genitals.”¹⁶⁵ The memory of Ctesias’s cynocephalus never quite lost its grip on Columbus’s imagination.

On the contrary, months later, in the Cabo de las Flechas (Bay of Samaná in today's Dominican Republic), Columbus came across an Indian who, in Las Casas's words, "was very deformed in his aspect (*muy disforme en el acatadura*), more than any other [Columbus] had seen. His face was all sooted up with charcoal, even though, in all places, they tend to dye themselves with different colors. The Admiral judged that he must be one of the Caribes who eat human flesh."¹⁶⁶ And years later, in the course of the fourth voyage, as Columbus perilously coasted Central America in search of a passage into the Indian Ocean, he "came across another people who ate human flesh: the deformity of their facial expression revealed this" (*Otra gente hallé que comían hombres: la desformidad de su gesto lo dize*).¹⁶⁷ Unquestionably, in the "deformity" or "disfigurement" of the man-eater, Columbus mindfully and influentially reinscribed the moral depravity of an ancient Indian monster whose infamous crimes against nature now rendered him a perfect substitute for the "Ethiopian" chattel Columbus had failed to find in his precious Indies.

It is not very difficult to guess from the early Indographic record *what* lay behind tropical nature's ability to bestow prodigality and gigantism on its creatures. A number of early authors attributed this hyperproductivity—a defining feature of the tropics—to the *accidental* conjunction of an excessive "heat" that would have otherwise killed every one of its creatures, and "moisture" that not only counteracted the desiccative effects of the sun's heat, but that, blending with this heat, provided ideal conditions for the generation of life. Indeed, it was in the happy mix of great heat and moisture that at least some early Indographers appear to have found a framework to explain the hyperproductivity of the tropics: while India might be *universally* infertile and uninhabitable on account of the heat, it was nevertheless *accidentally* fertile and inhabited on account of its water.

Not all early Indographers considered India to be uniformly hot. Some spoke of the wonderfully temperate air and of the equable seasonality to be found in this region of the globe. Arrian notes that the relatively temperate seasons prevented India from fostering many "illnesses."¹⁶⁸ Solinus speaks of a "most salubrious" land tempered by the Favonian winds.¹⁶⁹ But most Indographers do appear to have associated India's hyperproductivity with a high degree of heat and moisture. To be sure, Megasthenes, speaking through Diodorus Siculus, claimed that "practically all of the plains of India enjoy the sweet moisture from the rivers and from the rains which come with astonishing regularity, in a kind of fixed cycle, every year in the summer, since warm showers fall in abundance from the enveloping atmosphere and the heat ripens the

roots in the marshes, especially those of the tall reeds.”¹⁷⁰ What made this life possible was the fact that huge rivers flowed from the mountains to the north (presumably the Hindu Kush and Himalayas).¹⁷¹ Apart from giant rivers like the Ganges and the Indus, “a vast number of every description traverse the country and bring it about that the land is planed in many gardens and crops of every description.”¹⁷² In a passage where he compares the general latitude of Ethiopia with that of India, Strabo also tells us that “the whole of India is traversed by rivers” and that the great humidity of the place explained why Indians, though black like Ethiopians, did not display frizzy hair like them.¹⁷³ Furthermore, it was the combination of rain and irrigation that made it possible to have two full harvests every year in a place “never failing to produce crops.”¹⁷⁴ Citing Eratosthenes, Strabo reasoned that the combination of heat and moisture caused the “ripening” of things, and that this “ripening” in India, called by its peoples “heating,” was “as effective in producing a good flavor as heating by fire.”¹⁷⁵ In a passage comparing the products that were to be found equally in India, Arabia, and Ethiopia by virtue of the fact that the sun had similar effects on them, Strabo clearly shows us that it was the existence of great rivers like the Ganges and the Nile that made it possible for life to thrive in what otherwise would have been a scorching desert. India, which surpassed Arabia and Ethiopia “in the copiousness of its waters” was proportionately more humid, “and proportionately more nourishing and more productive.” This is why land and water animals were larger than in Arabia and Ethiopia, although, as Strabo is quick to qualify, the Nile was itself a huge river that produced gigantic creatures, many of them amphibious. And this excess of heat and moisture clearly explained why “Aegyptian women sometimes actually bear four children.”¹⁷⁶

In another memorable passage, Mela eloquently illustrates the fact that early Indographers considered life on the Indian Ocean to be possible only thanks to local conditions that counteracted the lethal effects of the heat. Mela explains that the Indians had long inhabited the shores of the Indian Ocean “except insofar as the heat makes it uninhabitable.”¹⁷⁷ The author described the Indian mainland “from Ganges to Cape Colis” (Cape Comorin) as inhabited mostly by black peoples or Ethiopians, “except in those places where it is too hot to be inhabited.”¹⁷⁸ Rivers could be so effective in counteracting the lethal effects of the heat, that the waters of the Nile, for instance, were “so efficacious for procreation and sustenance that—besides swarming with fish and producing huge beasts like hippopotamuses and crocodiles—the river even pours out the breath of life in clumps of silt and from the very soil fashions living creatures.”¹⁷⁹

A similar explanation had been earlier given by Diodorus Siculus concerning the extraordinary fertility that could issue from a soil otherwise seared dry by the sun's rays. He speaks of Ethiopians and other peoples "who dwell beneath the noon-day sun" as *autochthones*. This means, according to Diodorus, that they were generated from the soil itself, "since, inasmuch as it was the warmth of the sun which at the generation of the universe, dried up the earth when it was still wet and impregnated it with life, it is reasonable to suppose that the region which was nearest the sun was the first to bring forth living creatures."¹⁸⁰ The ripening caused by the combination of extreme heat and moisture affected not only plants but also animals and humans: Arrian tells us of the quickness with which people in India "ripened" and "spoiled," just like fruit on its way to rotting. People in India grew, married, and died very young: "For when old age comes on so much sooner and death along with age, the bloom of maturity will . . . be earlier in proportion to the end, so that men would be on the threshold of old age at thirty and young at twenty but passed beyond the first flush of youth; its prime would be at about fifteen, so that by analogy the women might be marriageable at seven. For even the fruits ripen earlier in this country than elsewhere, and decay earlier."¹⁸¹

The notion that all tropical things, including people, ripened and spoiled faster than others no doubt would play a role in Columbus's seemingly facile observation about the landfall that he had failed to see anyone in San Salvador "older than thirty years of age" (entry for 11 October 1492). Not surprisingly, Columbus's Indians did not just enjoy accelerated life cycles that prevented anyone from reaching old age; they also seemed to procreate at rates that defied reason. Just as Herodotus had once declared that "the number of Indians is far greater than any other people I know of," so would Columbus cultivate the habit of referring to his "Indians" as a people "without number" (*syn numero*).¹⁸² This was not just a casual remark prompted by the sheer numbers of people he appears to have found in the Bahamas and Caribbean basin. It served as a constant reminder to Columbus's royal patrons that Christian Europe had crossed the Atlantic in order not just to extract the natural resources of the belt of the tropics, but also to harness its considerable human resources in the service of an overseas empire. In a very telling passage of the letter he wrote recounting the exploration and colonization of Hispaniola on the second voyage (20 April 1494), Columbus argued that the horses imported from Europe, which did not seem to fare as well in the tropical heat as other imported animals, should not be put to the plow, but should instead be saved for the purpose of controlling a potentially restive native population. And in the course of this

argument, Columbus was rehearsing an indelible link between the fertility of tropical soil and the astounding proliferation of domestic beasts *and* humans in the Indies:

The chickens born here, grow large enough to eat in eight to twelve days, and very many of them are born. Pigs are multiplied in marvelous numbers. The goats and sheep are few, and so are the mares. The only thing missing here are farmers and beasts to do the plowing, although the latter must be saved [for other purposes], because a horse is worth here more than a fortress, for even though these people are cowardly, they are innumerable, and I believe that there must be millions of millions of them [*cuento de cuentos*]. And when it comes to horses, they cannot bear to wait for them, or even to look at them, for even if there are three thousand of them, one can confidently go at them with just one horse, because they will not dare to wait for it. They believe that horses fly, and speak, and understand [as humans do], and when they sometimes find that they cannot run from a horse, they will then speak to it as if to a man, and, for this reason, I hold [the horses] I have here in great esteem, and I order them to be tended to as much as I possibly can.¹⁸³

In yet another intriguing passage of an earlier letter to Fernando and Isabel (20 January 1494), recounting the exploration of the Lesser Antilles on the same voyage, Columbus accused shipment of the first slaves taken from islands believed to have been plagued by cannibals. And here too Columbus was associating the fertility of the soil with a limitless supply of slave labor: “May Your Highnesses judge whether they [i.e., the inhabitants of the Lesser Antilles] ought to be captured. For I believe that, in this case, every year, infinite numbers [*ynfinitos*] can be had of them and of the women.”¹⁸⁴ Columbus was not just promising limitless payloads of Indian slaves. He was promising that these slaves would be even better than any slaves currently imported to Europe from sub-Saharan Africa: “May you also believe that one of them would be worth more than three black slaves from Guinea in strength and ingenuity, as you will gather from those I am now shipping out.”

Columbus was certainly never all of one mind concerning the temperature of his Indies. At times he appears to have experienced the infernal heat that was traditionally supposed to desolate tropical places. And it was no doubt in connection with such heat that, like the early Indographers, Columbus would have “seen” gold everywhere his gaze rested, or that signs of gold or other treasure, as with the early Indographers,

should have been associated in his writing with the presence of physical and cultural monstrosity. Thus in the recently discovered letter of the second voyage recounting the exploration of the Lesser Antilles (20 January 1494), the southeastern quarter of the Caribbean where he had expected to find the man-eating Caribes, Columbus recalls what he had been told by one of his frightened Indian informants—that, “in these parts of the cannibals, there was a small island, and that three-fourths of it were gold, and now it all makes sense, for I see that the land is suited for [generating gold].”⁸⁵ And on the third voyage, when Columbus asked the locals on the Venezuelan mainland where they gathered the gold for the beautiful ornaments they exhibited on their bodies, “they all pointed to a land neighboring theirs, to the west, which was supposed to be high up but not very far from there. But all of them told me not to go there, because they ate men over there, and I then understood that they were cannibals, and that they would be just like the others [i.e., like those allegedly found on the second voyage in the Lesser Antilles].”⁸⁶ Indeed, cannibals, whom Columbus first visualized in the manner of Ctesias’s cynocephali, and whom he later portrayed as physically “deformed” or “disfigured,” were the depraved and unsavory guardians of the gold treasure harbored by an allegedly hot Indies. It goes without saying, that it was also in connection with Indian “heat” that Columbus influentially portrayed the inhabitants of the Bahamas and Caribbean basin as “ingenious” and “cowardly” or downright “cruel,” thereby, paving the way to justify their subjection or enslavement.

But for obvious reasons (i.e., the need to sell the idea of a benign and welcoming Indies to those back in Europe), Columbus preferred to attribute to the lands he had discovered a temperateness that in every way alluded to the generous perfection of Eden. We may never know whether Columbus conceived of the temperateness of his Indies as *absolute* in relation to Mediterranean Europe’s alleged temperateness, or whether, as is more likely, he considered his Indies to be distinctly hotter than Mediterranean Europe but, simultaneously, relatively temperate compared to the overheated complexion traditionally ascribed to the tropics. Like some of the earliest Indographers, Columbus may also have believed that what should have been the lethal heat of his Indies tended to be counteracted, indeed *tempered*, by the presence of large bodies of water that cooled things down and irrigated the soil. Thus in his account of the exploration and colonization of Hispaniola on the second voyage, Columbus insisted on tying the temperateness and fertility of the island to the proliferation of “great rivers,” whose

presence suggested that Hispaniola was significantly larger than Spain itself—including “one river that is far greater than any other in Spain.”¹⁸⁷

Whatever value Columbus assigned to the temperateness of his Indies, this temperateness is everywhere directly associated in his writings with uninterrupted and high-pitched fertility and inhabitability—and sometimes also with the physical or psychological traits of the inhabitants. For instance, in the course of the second voyage, as he marveled at the unspeakable beauty of the newly discovered island of Jamaica (26 February 1495), Columbus claimed that “the temperance of the heavens here and in the other islands is such, and so great, that no one would lend credit to his eyes except at spring time. A winter does exist here, but [it is] not very strong. It begins at the same time as in Castile, with similar rainfall and weather. It lasts until January, but there is no snow. And then comes the summer, which is not very hot, just as the winter is not very cold.”¹⁸⁸ This temperateness accounted for the perennial activity and accelerated life cycles of plants and beasts in a region of the world that behaved exactly like the place described by the earliest Indographers:

The trees never shed their leaves at one time or another. The greens and fruit are always bearing fruit; and the birds always have nests, and eggs, and chicks. All of the orchard seeds are always booming; and even other vegetables, if they are planted, will be harvested twice a year. And I can say this about every planted and wild fruit, so good is the aspect of the heavens and the complexion of the soil. It is a marvel to see how fast livestock and poultry multiply and grow: chickens bear chicks every two months, and they are already edible within ten to twelve days. And pigs, of which I brought only thirteen females, have proliferated so much that they now run wild through the mountains.¹⁸⁹

Columbus also cited this marvelous temperateness in connection with the physical or psychological traits of the Indians. In the letter recounting the exploration of the Lesser Antilles on the second voyage (20 January 1494), he observed that the island of Hispaniola was “the most temperate, both in terms of cold and heat. And today [i.e., 20 January] we have the same cold as in December, which is very mild, nor do I think we should expect greater heat.”¹⁹⁰ Then, in a passage that attests to the strong tie in his mind between temperature, latitude, and the nature of places, Columbus reminded the Catholic Monarchs that he had always insisted “that the fact that the

hair of the Indians was not curly but lank led me to believe that this land was most temperate.” This curious explanation may well have carried a silent apology for the fact that Columbus had failed to come across the dark-skinned, woolly-haired “Ethiopians” that had long been associated with the hotter latitudes of the globe. Undoubtedly, the absence of physiognomic traits that could have *automatically* equated the newly discovered peoples with the slaves already harvested by the Portuguese in sub-Saharan Africa was a stumbling block for Columbus’s plan to import slaves from the Indies—most likely, one of the reasons why King Fernando and, in particular, Queen Isabel were hesitant to authorize an indiscriminate Indian slave trade. On yet another remarkable occasion, Columbus may have also been attempting to explain why, across from Guinea, on the same latitude as Sierra Leone, he had failed to find dark-skinned peoples. Having endured infernally hot weather across the Atlantic on his third voyage, Columbus unexpectedly found that the island of Trinidad and the “Land of Grace” in today’s Venezuela harbored “the softest temperance.”¹⁹¹ The land and trees were unspeakably green, “as beautiful as those in April in the orchards of Valencia.” And the locals, for their part, were “of very handsome stature, and whiter than others I have seen in the Yndies; and their hair very long and straight. And [these were] people more astute and of greater ingenuity, and not [as] cowardly.” Indeed, in the connection between temperateness and the skin color, hair quality, and psychological traits of the Indians found in Venezuela, Columbus may have once again been trying to excuse his monumental failure to find the most coveted tropical cargo of all.

In sum, Columbus had one foot in a tradition that had long tended to construe the tropics as the hot, infertile, and uninhabitable fringes of a world whose geographical and political center was Mediterranean Europe; and the other foot in a previously less successful tradition that had tended to construe the tropics as a vast, temperate, fertile, and populous region of a world whose true geographical and political center did not necessarily reside with Mediterranean Europe. His writings, productively or paradoxically, alternated between the perception that life in the tropics was the accidental offspring of a fickle nature; and the perception that life in the tropics was part of a far more general design in nature. Whatever we make of these contradictions in Columbus’s writings, Columbus proved to be no less feverish than the early Indographers in his account of a place that he mindfully situated to the west and to the south of El Hierro Island—across the Atlantic, yes, but within the tantalizing reaches of the torrid zone. Indeed, Columbus never ceased to wonder at the marvels and monsters of a place that

he stubbornly defined as a part of legendary India.¹⁹² And it is no coincidence that the terms “marvel” and “diversity” or “disfigurement” (*maravilla, diversidad, desformidad*) should have proliferated in his writing as favorite code words for signifying the highly generative tropicity of his Indies. One needs only consider the instantly famous description of Cuba and Hispaniola in the letter to Luis de Santángel announcing the discovery to come across the phraseology of wonder that would tend to punctuate Columbus’s admittedly “disoriented” Indophilia. Cuba’s lands were

all beautiful, *of a thousand shapes* [*de mill fechuras*], and all are easily accessible, full of trees *of a thousand kinds* [*de mill maneras*] and tall, and they seem like they reach the sky. And I was told they never shed their foliage, from what I understand, for I saw them as green and beautiful as they are in Spain in May, some of them flowering, others bearing fruit, and yet others at another stage, each according to their nature. And the nightingale was singing and other little birds *in a thousand manners* [*de mill maneras*] in the month of November. There where I visited, there are six or eight kinds of palm trees, *which are a wonder to behold on account of their beautiful deformity* [*es admiración verlas por la diformidad hermosa dellas*], except that so are the other trees and fruit and greenery. In it are *marvelous pine groves* [*pinares a maravilla*], and there are enormous fields for planting, and there is honey, and many kinds of birds, and *very diverse sorts of fruit* [*frutas muy diversas*]. In its lands are many metal mines and there are *people without number* [*gente yn stimabile numero*]. Hispaniola is a *marvel* [*maravilla*—its sierras and mountains, and the basins and fields, and the soils so rich for planting and sowing, for breeding livestock of all kinds, for town and village buildings. The sea harbors are such as one cannot believe them to exist unless one has seen them, and as far as rivers are concerned, there are many and big, with good waters, most of which carry gold. In the trees and fruit and greenery, there are huge differences with respect to those of Juana [Cuba]. On this island, there are many spices, and huge mines of gold and other metals.¹⁹³

Columbus’s urgent appeal to Indographic wonder did not subside with increased familiarity toward the lands and peoples he had discovered in the high Atlantic. As his earliest chronicler Peter Martyr reminds us, Columbus’s victorious return to Europe was instantly clouded by doubt in court circles as to whether he had traveled far enough to the west to have reached the promised Indies.¹⁹⁴ (Martyr himself seemed to believe that

Columbus had only managed to reach the legendary mid-Atlantic region of Antilia.) And in the face of these early signs of trouble, it is only to be expected that Columbus should have insistently continued to indulge the description of a nature whose overwhelming profligacy and gigantism he read as confirmation that he had reached the easternmost suburbs of the legendary India. Indeed, if by dint of longitude, Columbus could not prove that he had reached the East “by way of the West,” certainly by dint of latitude, and thereby of nature, he would always argue that he had reached the right place across the Atlantic.

From Place to Colonialism in the
Aristotelian Tradition

*Not only are the heavens the cause in things correctly generated,
but also in the faults of nature and in monstrosities.*

Roger Bacon, *Opus maius* IV, 4