
New World, New Stars: Patriotic Astrology and the Invention of Indian and Creole Bodies in Colonial Spanish America, 1600–1650

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IN 1646, ANGERED BY ATTEMPTS OF CERTAIN SECTORS of the Spanish clergy to bar him from a recent appointment as procurator general in Rome of the Franciscan province of New Spain, Buenaventura de Salinas y Córdova wrote a *memorial* to the king requesting the emperor's support. Facing the criticism of his opponents, who assumed that the New World had turned Spanish-American colonists into degenerate Indians, Salinas presented America as a biblical Paradise. The benign astral influences of the New World were demonstrated not only in the fact that the Indies were a veritable microcosm in which everything in the world could be found but, more important, in the character of its peoples. Indians, Salinas averred, were gentle, meek, and generous, ideal material for creating communities of saints all over America. Spaniards born in the Indies, also known as Creoles, on the other hand, enjoyed outstanding minds, which, once trained in colonial universities, gave them the right (divine and natural) to occupy the highest bureaucratic posts in the land.¹ Yet, for all his praise of Indians and Creoles, Salinas also made a clear differentiation among those living in America. He reminded the king that Creoles were the heirs "not of the Indians" but "of the valor and blood of Spain."² In fact, in a previous *memorial* to the king published in Lima in 1630, Salinas had argued that skin color and behavioral differences among nations could not be explained by environmental factors. Taking issue with many "learned authors" (*varones doctos*) who had maintained that the physical features of Indians and blacks stemmed from the temperament of the land and/or heavenly influences (for example, warmth and

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¹ Buenaventura de Salinas y Córdova, *Memorial, informe, y manifiesto al rey* ([Rome], 1646), fols. 18v–19r (on America as microcosm); 17v (America as location of Paradise due to its climate and peoples); 22v–23r (on Indians and Creoles); 37 (on Indians suited to create ideal Christian communities).

² Salinas y Córdova, *Memorial, informe*, 11v, 106v.

sunny climates produced black skins), Salinas insisted that Indians and blacks owed their color and servile demeanor to Noah's curse on the descendants of Ham.³

There is, to be sure, no novelty in maintaining that European colonists sought to differentiate themselves racially from Indians. Spanish America was, after all, a society built on corporate privileges and social estates that overlapped with additional racial hierarchies. Although *castas* (mixed bloods) grew in the interstices of the original three-tier system of Spaniards, Indians, and Africans, and therefore blurred the colonial boundaries of class and race, Spanish America was a society obsessed with identifying and enforcing racial hierarchies.⁴ But Salinas y Córdova's treatises reveal much more than a quaint exercise in white European self-identity. About the time Salinas wrote his *memorial* of 1646 to the king, Antonio León Pinelo was seeking to prove that Paradise lay hidden somewhere in the eastern slopes of the Peruvian Andes. After building a successful career as a magistrate in Lima, the expatriate León Pinelo was recalled to serve in the Council of Indies in Madrid, where he set out to defend the Indies from Europe's negative characterizations. León Pinelo maintained that Peru was so bountiful and temperate that it was home to the Garden of Eden and that the Amazon, Magdalena, La Plata, and Orinoco were the four rivers of Paradise mentioned in Genesis. To prove that the Amazon was the biblical river Gehon that ran through the lands of Ethiopia, León Pinelo insisted that the torrid zone of the Indies and Africa were one and the same. To clinch his argument, León Pinelo argued that the Indians were like the Ethiopians, "black" and slavish, the cursed descendants of Ham.⁵

León Pinelo was well aware of the contradictory nature of his argument. How could Paradise be the original home of the Indians, idle, meek, "black," and cursed members of humankind? If judged by the quality of its people, Peru clearly was not Paradise. After accepting the thesis of the French humanist Julius Caesar Scaliger that if judged by the merit and intelligence of its peoples Paradise should be somewhere in Europe, León Pinelo insisted that the location of Paradise should be determined solely on the quality of lands, not peoples: nations moved around (which made it impossible to determine whether the Indians were truly the original inhabitants of America), they also had set mental and physical differences acquired from creation that could not be changed by astral or climatic influences.⁶ Like Salinas y Córdova, León Pinelo introduced the notion that the environment affected only slightly the character of peoples, which otherwise was innate. Both authors posited that the bodies of European and Indians were radically different.

In this article, I argue that Salinas y Córdova and León Pinelo belong in a larger

³ Buenaventura de Salinas y Córdova, *Memorial de las historias del Nuevo Mundo Piru: Méritos y excelencias de la ciudad de Lima, cabeza de sus ricos y estendidos reynos y el estado presente en el que se hallan* (Lima, 1630), chap. 1. See also the edition by the Universidad Mayor de San Marcos (Lima, 1957), 11–12.

⁴ Magnus Morner, *Race Mixture in the History of Latin America* (Boston, 1967); Jonathan Irvine Israel, *Race, Class, and Politics in Colonial Mexico, 1610–1670* (London, 1975); Patricia Seed, "Social Dimensions of Race: Mexico City, 1753," *Hispanic American Historical Review* 62 (1982): 569–606; David Cahill, "Colour by Numbers: Racial and Ethnic Categories in the Viceroyalty of Peru, 1532–1824," *Journal of Latin American Studies* 26 (1994): 325–46.

⁵ Antonio de León Pinelo, *El paraíso en el Nuevo Mundo: Comentario apologético, historia natural y peregrina de las Indias Occidentales*, Raul Porras Barrenechea, ed., 2 vols. (Lima, 1943), 2: 524–29.

⁶ León Pinelo, *El paraíso en el Nuevo Mundo*, 2: 4–6.

movement of seventeenth-century learned colonists who, as they sought to defend Spanish America from negative European characterizations, invented modern forms of racism that scholars have wrongly attributed to the rise of modern science in Europe in the eighteenth and nineteenth centuries. I contend that the science of race, with its emphasis on biological determinism, its focus on the body as the site of behavioral-cultural variations, and its obsession with creating homogenizing and essentializing categories, was first articulated in colonial Spanish America in the seventeenth century, not in nineteenth-century Europe. Using the European sciences of the day, astrology and Hippocratic-Galenic physiology, learned colonists articulated a form of scientific racism that claimed there were innate bodily and mental differences separating peoples from one another. They maintained that although constellations and climate could in fact render white colonists more intelligent than the Europeans, bodies remained impervious to environmental and/or cultural influences: the climate and stars of the Indies could not transform white Europeans into Indians anymore than the cold air of Europe could turn a black person white.

Intellectuals in the colonies showed little interest in theories of “generation” or heredity. Such interest could clearly have had the potential of turning their argument of innate racial differences into a heretical one by denying a common ancestry from Adam to both Indians and Europeans.⁷ Yet they never threatened the authority of the Bible. Creole and European émigré scholars avoided the contemporaneous rancorous debates in Europe, where Isaac La Peyrère and the so-called sect of Pre-Adamites maintained that most nations had originated in separate creations.⁸ Creole scholars found the roots of innate racial differences not in polygenism but in the events that followed the Great Flood. They maintained that Indian and black physical and mental traits had originated as a result of Noah’s curse on Ham.⁹

In a thesis now widely accepted, John H. Elliott has argued that, during the early modern period, what was “new” about America was easily incorporated into ancient classical and biblical paradigms and therefore had only a blunted impact on European consciousness.¹⁰ The story I am about to tell both confirms and

⁷ Joyce E. Chaplin has made a similar argument in “Natural Philosophy and Early Racial Idiom in North America: Comparing English and Indian Bodies,” *William and Mary Quarterly*, 3d ser., 64 (1997): 229–52. Although the English colonists articulated a view of their bodies as better adapted to the American climate than those of the Indians, who were dying by the thousands due to exposure to new European diseases, it appears that the colonists were unable to turn their new-found bodily exceptional identity into a full-fledged racialist discourse. According to Chaplin, they remained bound to the assumption that environment was the ultimate cause of bodily transformations. My argument is that the Spanish-American Creoles were far more successful at transforming a racial “idiom” into a full-fledged racialist discourse than their English counterparts.

⁸ Richard H. Popkin, *Isaac La Peyrère (1596–1676): His Life, Work, and Influence* (Leiden, 1987). On sixteenth and seventeenth-century debates on the origins of American Indians, see Lee Eldridge Huddleston, *Origins of the American Indians: European Concepts, 1492–1729* (Austin, Tex., 1967).

⁹ Their arguments paralleled those medieval discourses that through the doctrine of the curse of Noah sought to separate the bodies of peasant commoners from the nobility’s. On this, see Paul Freedman, *The Image of the Medieval Peasant as Alien and Exemplary* (forthcoming). Thanks to Professor Paul Freedman for letting me read the manuscript before publication.

¹⁰ John H. Elliott, *The Old World and the New, 1492–1650* (Cambridge, 1970). See also Anthony Pagden, *The Fall of Natural Man: The American Indian and the Origins of Comparative Ethnology*, rev. edn. (Cambridge, 1986); Anthony Grafton, *New Worlds, Ancient Texts: The Power of Tradition and the*

undermines Elliott's thesis. Spanish-American intellectuals held that the body was immune to environmental influences and therefore went against ancient Mediterranean paradigms of behavior and skin color being determined by the close interactions of the individual with the stars and the climate. But this challenge to ancient views, inadvertently developed by colonial intellectuals, did not influence, and was not even acknowledged in, later European discourses of scientific racism. Postcolonial theorists have called for a more nuanced and global understanding of the history of processes and institutions that to this day have been narrowly construed as European.¹¹ Ann Laura Stoler, for example, has used such postcolonial approaches to shed light on the deep colonial roots of nineteenth-century Victorian sexuality and has offered a new, more provocative reading of Michel Foucault's Europe-bound *History of Sexuality*. Stoler has forcefully maintained that colonies were "laboratories of modernity" where "key symbols of modern western societies [such as] liberalism, nationalism, state citizenship, culture, and Europeaness were first clarified among Europe's colonial exiles and by those colonized classes caught in their pedagogic net in Asia, Africa and Latin America, and only then brought home."¹² The present study shows that the seventeenth-century Spanish-American colonies were indeed laboratories of modernity. But my story, unlike Stoler's, cannot be used to demonstrate continuities in the colonial roots of European modernity, because none of the ideas created in Spanish America later proved influential in Europe.

Precisely at the time that the European core was articulating a racialized modern view of the body, a new rhetoric of rigor and objectivity in science declared useless and unreliable the ideas that had once been created in Europe's colonial peripheries.¹³ It is not surprising therefore that the sixteenth and seventeenth-century origins of modern views of the racialized body have long been forgotten. To rediscover these deep colonial roots, we need to restore some of the credibility that early modern science once enjoyed.¹⁴ The science used by Spanish-American intellectuals came wrapped in the ancient Mediterranean idioms of Hippocratic-Galenic physiology and astrology. Astrology was considered a very serious science that studied the processes through which planets and fixed stars controlled "generation and corruption" in the sublunary world by eliciting change among the four elements (water, earth, fire, and air) and therefore over human temperaments

Shock of Discovery (Cambridge, Mass., 1995); and the articles in Karen Ordahl Kupperman, ed., *America in European Consciousness 1493–1750* (Chapel Hill, N.C., 1995). On the classical tradition of environmental determinism, see Clarence J. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century* (Berkeley, Calif., 1967).

¹¹ Stuart Hall, "When Was 'The Post-Colonial'?" Thinking at the Limit," in *The Post-Colonial Question: Common Skies, Divided Horizons*, Iain Chambers and Lidia Curti, eds. (London, 1996), 242–60.

¹² Ann Laura Stoler, *Race and the Education of Desire: Foucault's "History of Sexuality" and the Colonial Order of Things* (Durham, N.C., 1995), 16.

¹³ Jorge Cañizares Esguerra, "Spanish America in Eighteenth-Century European Travel Compilations: A New 'Art of Reading' and the Transition to Modernity," *Journal of Early Modern History* 2, no. 4 (1998): 329–49, and more generally Cañizares Esguerra, *Historical Criticism and the Reconstruction of the Amerindian Past in Europe and Spanish America, 1750–1800* (Stanford, forthcoming).

¹⁴ For recent good syntheses of the nature and complexity of early modern science, see the articles in David C. Lindberg and Robert S. Westman, eds., *Reappraisals of the Scientific Revolution* (Cambridge, 1990).

and complexions, that is, over the bodily balance of elements and humors as described in the Hippocratic and Galenic corpus. Astrology was part of the obvious mental landscape of every learned individual in the early modern world, regardless of religion or country of origin. Although prognostication was itself a contentious issue that raised all sorts of theological and political questions, the understanding that the stars affected behavior in the sublunary world was something everybody took for granted.¹⁵

Hippocratic-Galenic physiology and astrology were two important early modern scientific idioms that helped Europeans to make sense of their puzzling encounter with the New World. Paradoxically, however, this has not been properly recognized. A generation ago, Antonello Gerbi showed that during the eighteenth and nineteenth centuries the New World came to be seen as a degenerating tropical environment. Gerbi studied the patriotic responses in the Americas, including the United States, triggered by these views.¹⁶ Yet little is known of European characterizations of the Indies in the sixteenth and seventeenth centuries. By the late sixteenth century, America came to be perceived as a degenerating land; it was thought to be overly “humid” and thus emasculating, but, more important, it was assumed to be ruled by those new, negative constellations that Europeans had recently discovered and charted in the Southern Hemisphere. Such representations prompted Creole and émigré European scholars to react, creating forms of patriotic astrology. A full-fledged, consistent defense of the environment, however, could only undermine tenets most colonials assumed to be true, namely that Indians were slow-witted phlegmatics who needed to be forced to work. How to defend a land from European innuendo that had created nations of inferior, mentally challenged Indians? I argue that the reaction of the colonists was to postulate clear-cut racial distinctions and to construct separate bodies for Indians and Creoles (and, to a lesser degree, blacks).

In the first section of this article, I explore Europe’s negative climatological and astrological characterizations of the New World as well as the views of the European body in the Indies these engendered. In the second section, I study the reaction of colonists in Spanish America, including the rise of a genre of patriotic astrology and the invention of separate bodies for Indians and white European colonists. In the third and final section, I discuss the historiographical import of understanding these views.

¹⁵ Don Cameron Allen, *The Star-Crossed Renaissance: The Quarrel about Astrology and Its Influence in England* (New York, 1966); Ann Geneva, *Astrology and the Seventeenth-Century Mind: William Lilly and the Language of the Stars* (Manchester, 1995); Laura Smoller, *History, Prophecy, and the Stars: The Christian Astrology of Pierre d’Ailly 1350–1420* (Princeton, N.J., 1994). Nancy G. Siraisi, *The Clock and the Mirror: Girolamo Cardano and Renaissance Medicine* (Princeton, 1997), and Anthony Grafton, *Cardano’s Cosmos: The Worlds and Work of a Renaissance Astrologer* (Cambridge, Mass, forthcoming), both make perfectly clear that the principle of astral effects on the human body was one of the pillars of early modern medicine. (Many thanks to Professor Grafton for letting me read his book before publication). On medieval and Renaissance theories of temperaments and complexions, see Nancy G. Siraisi, *Medieval and Early Renaissance Medicine* (Chicago, 1990), 97–114.

¹⁶ Antonello Gerbi, *The Dispute of the New World: The History of a Polemic, 1750–1900*, Jeremy Moyle, trans., rev. and enl. edn. (Pittsburgh, 1973).

FROM THE EARLY SIXTEENTH CENTURY, learned Europeans felt the need to explain why a land that ancient cosmographers had predicted to be uninhabited was in fact temperate. Gonzalo Fernández de Oviedo was perhaps the first European to offer, in 1526, a list of meteorological mechanisms to explain why Spanish America, a region largely located in the Torrid Zone, was temperate and bountiful and not barren, despite being under the influence of the scorching equatorial sun. Oviedo suggested several cooling mechanisms: nights and days had the same length year-round, and thus, unlike summer in Europe, tropical earth had longer nights to cool off; high mountain ranges and vast oceans encircling an elongated continent contributed to chill the land; and large rivers and wet soils dampened the heat.¹⁷ As conquistadors discovered large river basins, lakes, and tropical forests, a sense that America was a temperate yet humid continent came to dominate the imagination of European scholars.¹⁸ In 1555, Girolamo Cardano, a distinguished Italian humanist, argued that climate was determined by the height of land relative to the sea. The Torrid Zone was temperate because it lay below sea level and attracted waters from the poles, which were the highest continental masses over the globe. This polar-equatorial flow of water, Cardano maintained, made Torrid America temperate and moist.¹⁹ In 1589, the Jesuit José de Acosta offered the first detailed account of the meteorological mechanisms that kept Torrid America temperate and contended that the continent, although the closest thing on earth to Paradise, was humid.²⁰ The abundance of water made large sections of the Indies uninhabitable; humidity was also partially responsible for its numerous earthquakes.²¹

Oviedo, Cardano, and Acosta did not draw any negative conclusions from the humidity of the land. However, in 1579, the Franciscan Diego Valadés argued in Italy that the Indians “are stupid because they are born in crass air.”²² In 1591, the émigré Spanish physician Juan de Cárdenas maintained that humidity in the Indies was not only the cause of frequent earthquakes (for vapors were trapped in America’s cavernous subsoil) but also sapped the strength of the population (humidity caused chronic illnesses that weakened, dried, and consumed the human body).²³ By the early seventeenth century, it had become a truism that the humidity of the Indies debilitated organisms, made roots shallow, and caused food to lack nourishing value.²⁴ Colonial physicians in Mexico told Thomas Gage, an English

¹⁷ Gonzalo Fernández de Oviedo y Valdes, *Sumario de la natural historia de las Indias*, Manuel Ballesteros, ed. (Madrid, 1986), 77–78.

¹⁸ As early as 1519, the Spanish cosmographer Martin Fernández de Enciso attributed the great frequency of lightning storms in the Caribbean to the greater humidity of the Indies; see *Suma de geographia que trata de todas las partidas y provincias del mundo* (1519; rpt. edn., Seville, 1530), fols. 18v–19r.

¹⁹ Cardano quoted in Richard Eden, *The Decades of the Newe Worlde or West India* (London, 1555), fol. 184r–v. On Cardano, see note 15.

²⁰ José de Acosta, *Historia natural y moral de las indias en que se tratan cosas notables del cielo y elementos, metales, plantas y animales dellas* (1589; rpt. edn., Barcelona, 1591), bk. 2, chap. 6, fols. 58v–59r.

²¹ Acosta, *Historia natural y moral*, bk. 3, chap. 28, fol. 123v.

²² Diego Valadés, *Rhetorica christiana*, facs. of the 1579 Latin edn. with a parallel Spanish translation (Mexico City, 1989), part 2, chap. 27, 94 [235] “sint stupidi taq’ in crasso aëre nati.”

²³ Juan de Cárdenas, *Problemas y secretos maravillosos de las Indias* (1591; rpt. edn., Madrid, 1988), 37–42, 231–32. As Cárdenas explained it, humidity sapped vital heat from the body and paradoxically caused the body to dry and to age sooner.

²⁴ Juan de Torquemada, *Monarchia indiana*, 3 vols. (Seville, 1615), bk. 14, chap. 19, p. 613 (the

apostate who traveled in New Spain during the early seventeenth century, that the reason he felt always hungry in America even after having huge meals was because the humidity of the land made meat to be fair looking yet short in "substance and nourishment," the fruits to be nice and sweet tasting but with "little inward virtue," and the people, just as the meat and the fruits, good looking on the outside but "false and hollow hearted" inside.²⁵

The purported humidity of America was a claim with heavy ideological baggage. Scholarship had associated masculinity with warm and dry environments and femininity with moist and cold ones. America posed the threat of impending sexual transformations for colonists.²⁶ In fact, some Spanish authors argued in the course of the sixteenth century that America was a land where women urinated standing while men did so seated.²⁷ But the threat of emasculation associated with humid environments was offset by the insistence of those who showed why the land was

climate of the New World made food less nourishing and weakened the body). The first reference to the non-nutritious quality of the American food was voiced by Pedro Mártir de Anglería in *De orbe novo* (Alcala de Henares, 1516), década 1, chap. 10, dvi (verso). In the seventeenth century, these misgivings continued. About 1650, a Spanish naturalist long resident in the Indies, the Jesuit Bernabé Cobo, argued that the humidity of the Indies was a compensating mechanism to keep the continent temperate but also the reason why fruits were cold, humid, non-nutritive and even insalubrious; see Francisco Mateos, ed., *Obras del Padre Cobo*, 2 vols. (Madrid, 1956), 1: 55–56, 237. In 1698, the Franciscan Creole Agustín de Vetancurt maintained that the temperate climate of the Indies caused the roots to be shallow (in cold climates, roots went deeper) and, therefore, caused fruits and staples to be non-nutritive. According to Vetancurt, the non-nutritive quality of food, however, had an advantage for European colonists because the less substantial the meal, the fewer the internal vapors created inside the body and the brain. Since colonists, therefore, had fewer vapors clouding perceptions, it could be argued that they were more intelligent than Europeans. See Vetancurt, *Teatro mexicano: Descripción breve de los sucesos exemplares, históricos, políticos, militares y religiosos del nuevo mundo occidental* (Mexico, 1698), tratado primero, chap. 6, pp. 10–11. The assumption that American food lacked substance lasted well into the eighteenth century. In 1751, the Creole doctor Joseph Francisco de Malpica Diosdado wrote a treatise encouraging fasting. In the New World, he argued, doctors had long excused the population from fasting because they assumed that the climate made the local population weaker and the food less nutritious. Malpica Diosdado maintained that such views gave ammunition to the Pre-Adamites by emphasizing the radical difference of the organic productions of the Old and New Worlds. See *Alexipharmaco de la salud, antídoto de la enfermedad, favorable dietético instrumento de la vida* (Mexico City, 1751), esp. 151–65.

²⁵ Thomas Gage, *A New Survey of the West-India's: or, The English American, his Travail by Sea and Land*, 2d enl. edn. (London, 1655), 42–43.

²⁶ On this tradition, see Ian Maclean, *The Renaissance Notion of Woman: A Study in the Fortunes of Scholasticism and Medical Science in European Intellectual Life* (Cambridge, 1980), chap. 3; Thomas Laqueur, *Making Sex: Body and Gender from the Greeks to Freud* (Cambridge, Mass., 1990); and Londa Schiebinger, *The Mind Has No Sex? Women in the Origins of Modern Science* (Cambridge, Mass., 1989), chap. 3. Laqueur and Schiebinger argue that until the late eighteenth century European scholars did not see men's and women's bodies as radically different. Female bodies were thought to be *manqué*, male bodies whose sexual organs had been inverted due to the lack of vital heat and excess humidity. Thus it was common to think that spontaneous sexual transformations were not only possible but happened often. Peter Brown has argued that male Roman elites educated in the Galenic classical medical tradition saw their bodies constantly threatened by physiological processes that led to the depletion of vital bodily heat (sexual intercourse) and thus to emasculation; Brown, *The Body and Society: Men, Women, and Sexual Renunciation in Early Christianity* (New York, 1988), 10–11.

²⁷ Juan Suárez de Peralta, *Tratado del descubrimiento de las Indias (Noticias históricas de Nueva España)* [1589] (Mexico City, 1949), 5–6; and Conquistador Anónimo, *Relación de algunas cosas de la Nueva España y de la gran ciudad de Temistan Mexico*, Federico Gómez de Orozco, ed. (Mexico City, 1961), 68. Views of "savages" and racial inferiors as feminized others have enjoyed widespread popularity in the West; see Nancy Leys Stepan, "Race and Gender: The Role of Analogy in Science," *Isis* 77 (1986): 261–77.

bountiful and paradisaic: compensating meteorological mechanisms made Torrid America temperate.²⁸

More challenging for colonial intellectuals proved to be the writings of Europeans on the negative effects of the stars of the New World. The notion that the stars did not merely influence the body but gave societies unique and distinct characteristics was an ancient paradigm widely influential in early modern Europe.²⁹ Despite the fact that the Portuguese had inched their way down the coast of Africa during the fifteenth century, European audiences had no knowledge of most stars south of the equator until 1502, when Amerigo Vespucci offered the first drawings of southern constellations.³⁰ Vespucci introduced learned Europeans to some twenty new stars and marvelous new heavenly phenomena.³¹ It is fair to argue that Vespucci assigned to the Indies the name of “New World” largely because the skies of the Indies were populated by “stars and signs” unknown to the ancients. Vespucci was so fascinated by being witness to so many new heavenly marvels that he claimed to have written a treatise on the constellations of the New World (it did not, to my knowledge, survive him). Vespucci found the stars of the New World to be brighter and bigger than those over Europe and related them to those mechanisms that made the Torrid Zone wonderfully temperate.³² True to his view of the Indies as a paradise enjoying benign astral influences, Vespucci found the land to be inhabited by peoples who, although they ate each other and went naked without shame, were physically perfect and enjoyed extraordinary longevity, without wrinkles, sagging breasts, or stretch marks.³³ In 1517, Andrea Corsali, an Italian navigator who sailed to the East Indies under the flag of the king of Portugal, published a letter addressed to the duke of Medici with a map of stars of the Southern Hemisphere. He waxed eloquent about the beauty of the Southern Cross, so bright “that no other heavenly sign may be compared to it” (Figure 1).³⁴

Fendández de Oviedo was the first learned European to cast doubts on such positive characterizations of the new constellations. In 1526, Oviedo argued that animals in America that look like tigers were in fact “tigers,” even though they were

²⁸ On perceptions of the American climate in British America, see Karen Ordahl Kupperman, “The Puzzle of the American Climate in the Early Colonial Period,” *AHR* 87 (December 1982): 1262–89; Kupperman, “Fear of Hot Climates in the Anglo-American Colonial Experience,” *William and Mary Quarterly*, 3d ser., 41 (1984): 215–40; Kupperman, “Climate and Mastery of the Wilderness in Seventeenth-Century New England,” *Seventeenth-Century New England: A Conference*, David D. Hall and David Grayson Allen, eds. (Boston, 1984), 3–37. Thanks to Professor Karen Kupperman for making copies of these three articles available to me.

²⁹ Marian J. Tooley, “Bodin and the Medieval Theory of Climate,” *Speculum* 28 (1953): 64–83; and Glacken, *Traces on the Rhodian Shore*.

³⁰ Although the fifteenth-century Portuguese expansion to Africa was predicated on exquisite astronomical knowledge of the “new stars and skies” of the Southern Hemisphere, this new knowledge was not readily available. See Patricia Seed, *Ceremonies of Possession in Europe’s Conquest of the New World, 1492–1640* (Cambridge, 1995), 100–48. According to Seed, Master John, a Portuguese pilot, was the first to offer an accurate drawing of the Southern Cross in 1500. It is not clear, however, when this report reached the crown and whether it was made public (104–05).

³¹ Amerigo Vespucci, *Letters from a New World: Amerigo Vespucci’s Discovery of America*, Luciano Formisano, ed., David Jacobson, trans. (New York, 1992), 52–53.

³² Vespucci, *Letters from a New World*, 35, 40, 90.

³³ Vespucci, *Letters from a New World*, 66.

³⁴ Quoted in Eden, *Decades*, fols. 247v–248r.

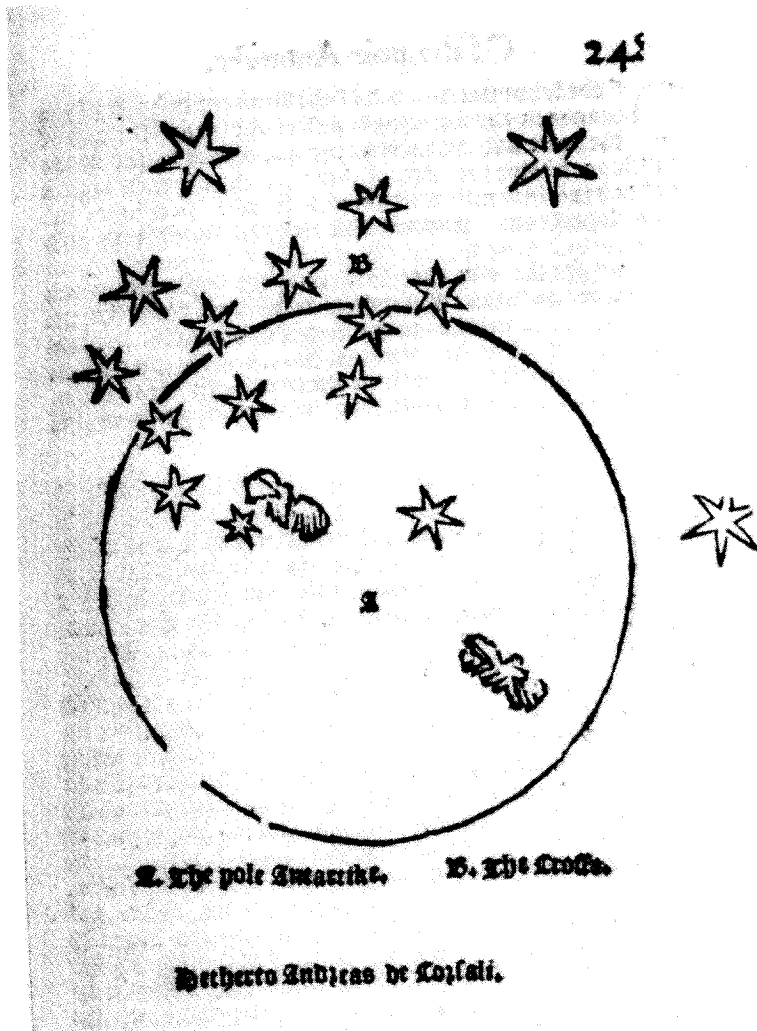


FIGURE 1: Star chart of the Southern Hemisphere by Andrea de Corsali (1517). From Richard Eden, *The Decades of the New Worlde or West India* (London, 1555). It includes the Southern Cross and two Magellanic Clouds. Reproduced with permission of the John Carter Brown Library, Brown University.

uncharacteristically slow. Oviedo maintained that the phlegmatic character of American tigers could be accounted for by the climate and constellations that ruled the land, the same stars that made the people “shy and cowards.”³⁵ Oviedo’s description of heavenly influences over America, however, was ambiguous. In 1535, in his much awaited *Natural History of the Indies*, Oviedo offered an illustration of the Southern Cross and declared that those who, like himself, had lived under the influence of this constellation were condemned to toil and suffer. Yet he also presented the *Cruzero* as his own, for Charles V had made a representation of the Southern Cross the main emblem of the coat of arms granted to Oviedo for having written on the marvels and natural history of the New World. In the imagination of

³⁵ Oviedo, *Sumario*, 94.

the emperor and Oviedo, the metonym of the Southern Cross, a new constellation, stood for the whole of America (Figures 2 and 3).³⁶

Oviedo's misgivings about the effects of the constellations of the New World only fueled the curiosity of European scholars. Richard Eden organized his selection of travel narratives published in London in 1555 to reveal the singularities of the land, sea, and more important for the purpose of this article, the skies of the New World. The long title page of the book whetted the appetite of potential buyers by warning them that "[in this book] the diligent reader may not only consider what commodities may hereby chance to the whole Christian world in time to come, but also learn many secretes touching the land, the sea, and the stars."³⁷ Eden, who was convinced that the "miraculous mouinges of the Planets, Starres, and heauens [caused . . .] the varietie of times and the dyversitie of all natural things . . . [particularly] the varietie of divers complexions, formes and dispositions of all creatures under the face of heaven," also believed that the New World was a singular land whose new stars merited as much attention as did descriptions of its already better known fauna and flora.³⁸ True to his offer, Eden introduced illustrations of southern constellations and passages from Vespucci, Antonio Pigafetta (who traveled with Magellan), and Corsali, all of whom had agreed that the stars of the New World were beautiful, bright, and benign.³⁹ Eden, however, also included Oviedo's *Sumario*, with its negative comments regarding the degenerating effect of American constellations on "tigers" and people.⁴⁰

Julius Caesar Scaliger, himself a renowned humanist and the father of Joseph Scaliger, one of the greatest polymaths ever to appear in Europe, may have helped consolidate the party of those who had misgivings about effects of America's heavenly constellations. In a work written in 1557 aimed at debunking the views of Cardano on a variety of issues, Scaliger took issue with the theories of the Italian humanist on the origin of metals. Cardano had argued that the sun was responsible for the generation of gold and precious stones, and that therefore an eastern equatorial position on the globe was enough to make a land rich. Scaliger dismissed Cardano out of hand because among other things "wealth" and "East" were relative categories. Europe, Scaliger argued, although it may have indeed been poorer in gold was in fact richer than "Eastern" tropical lands because it was rich in iron mines. It was also a land, unlike any other, rich in brilliant minds. Using Brazil as

³⁶ Gonzalo Fernández de Oviedo y Valdes, *La historia general de las Indias* (Seville, 1535), bk. 2, chap. 11. In 1530, Pedro Mártir de Anglería referred to the testimony of the two Pinzón brothers who in an expedition to the New World in 1499 found the southern skies unfamiliar with many unknown constellations. See Anglería, *De orbe novo*, década 1, chap. 9. It seems curious that the Spanish Habsburg appear not to have incorporated the new constellations of the Southern Hemisphere into courtly rituals of legitimization as Mario Biagioli has described for the Medicis' use of Galileo's new celestial discoveries (the "Medicean Stars"); see Biagioli, *Galileo, Courtier: The Practice of Science in the Culture of Absolutism* (Chicago, 1993). On Spain's distinct early modern court culture, see J. H. Elliott, *Spain and Its World 1500-1700* (New Haven, Conn., 1989), pt. 3.

³⁷ Eden, *Decades*, title page.

³⁸ Eden in the preface to his translation of Martin Cortés, *El arte de navegar* [1561], reproduced in Edward Arber, "The Life and Labours of Richard Eden," in Arber, ed., *The First Three English Books on America* (Birmingham, 1885), xlii.

³⁹ Eden, *Decades*, fols. 221r, 244v-248r, 321v-322r.

⁴⁰ Eden, *Decades*, fol. 206r-v.



FIGURE 3: Oviedo's coat of arms that includes the Southern Cross, in Gonzalo Fernández de Oviedo, *La historia general de las Indias*. Reproduced with permission of the John Carter Brown Library, Brown University.

Scaliger's misgivings about America's astral influences were part of a larger scholarly environment. In the 1570s, the first extended analyses of the corrupting effects of America's stars and heavenly signs were penned in Mexico. The Franciscan friar Bernardino Sahagún, whose encyclopedic studies helped preserve Nahua lore of the indigenous peoples of central Mexico, believed that the demographic, moral, and economic crisis affecting Mexico in the second half of the

sixteenth century, which shattered Franciscan hopes for a millenarian church in the Indies, had been caused by evil astral influences. Sahagún argued that the Franciscan failure to create an indigenous priesthood at the College of Santa Cruz at Tlatelolco typified the origins of Mexico's larger national crisis. The Franciscans, unable to understand that heavenly constellations had caused Indians to be lascivious and idle and that only strict corporal and labor discipline could offset such negative astral influences, had relaxed their original high monastic standards, causing Indians to slip back into promiscuity and idleness. According to Sahagún, Aztec lords had long understood the dangers of the constellations and had therefore punished drunkards, vagrants, adulterers, and liars harshly. Only a reversion to traditional high standards of Aztec discipline, Sahagún suggested, could save Santa Cruz and Mexico from total collapse. To clinch his argument, he presented the Creoles as examples of the malignant and degenerating effects that the stars of the New World had on its peoples.⁴² The physician Francisco Hernández was sent to the Indies by Philip II in the 1570s solely to identify medicinal plants to enrich the royal pharmacy. Hernández nevertheless also wrote a book on Mexican antiquities because he thought that human conduct, just as much as the virtues of plants, was conditioned by the stars.⁴³ Like Sahagún, Hernández believed that the stars limited free will, and he explored the negative effects that the constellations of the New World had over the Indians. He found them idle, docile, untrustworthy, and obedient only by force, and therefore to be disciplined according to ancient Aztec lore through harsh, regimented labor. Hernández also worried that Creoles "obedient to astral influences" were adopting "the [idle] habits of the Indians."⁴⁴

Sahagún's and Hernández's views were shared by many and were part of a larger scholarly discussion concerned with the debilitating effects of the new constellations and heavenly phenomena of America.⁴⁵ In 1589, José de Acosta openly denounced those who had argued that the stars of the New World were brighter and more numerous than those in Europe. He found the stars of America to be in fact smaller and much dimmer. Although Acosta praised the rest of America's nature, the only "positive" thing he was able to say about heavenly phenomena in the Indies was that the skies were "singular," for numerous dark holes in the Milky Way unobservable from Europe could be spotted, adding therefore to his message that

⁴² Bernardino de Sahagún, *Historia general de las cosas de Nueva España* [ca. 1570], Angel María Garibay K., ed., 4 vols. (Mexico City, 1956), 3: 157–68. On Franciscan millenarianism in sixteenth-century Mexico, see John Leddy Phelan, *The Millennial Kingdom of the Franciscans in the New World: A Study of the Writings of Gerónimo de Mendieta, 1525–1604* (Berkeley, Calif., 1956).

⁴³ Francisco Hernández, *Antigüedades de la Nueva España* [ca. 1570], Ascension H. de León-Portilla, ed. (Madrid, 1986), 46.

⁴⁴ Hernández, *Antigüedades de la Nueva España*, 97, 101. To claim that ancient Indian legislators understood the environment and the nature of the Indians and that therefore they knew how to rule their vassals was a rather common tenet of Spanish colonialism. The learned often prompted authorities to imitate those Indian rulers who, to be sure, understood that Indians needed to be put to work by force. See, for example, Tomás López Medel a los Reyes de Bohemia, Guatemala, March 25, 1555, Archivo General de Indias, Guatemala, 9A.

⁴⁵ Sahagún's thesis did not reach the European public until the nineteenth century. Parts of Hernández's work on Indian antiquities were published by the Jesuit John Eusebius Nieremberg in *Historia naturae, maxime peregrinae, libris XVI distincta* (Antuerpiae, 1635). On the fate of Hernández's manuscripts, see Nettie Lee Benson, "The Ill-Fated Manuscripts of Francisco Hernández," *Library Chronicle of the University of Texas* 5 (Winter 1954): 17–27.

the skies of America were lacking in stars and brightness.⁴⁶ In a passage destined to become canonical largely because Antonio de Herrera, the royal chronicler of the Indies and author of the influential *Historia de los hechos de los castellanos en las Indias*, copied it verbatim in 1601,⁴⁷ the Italian humanist Giovanni Botero, like Acosta, concluded in 1596 that the stars and constellations of America were “inferior.” Botero readily drew very negative conclusions from this “fact” (along with others such as that the Indies lacked large quadrupeds and valuable fruits and spices and that the continent’s topography and overall shape hampered navigation, overland trade, and commerce). Europe, Botero concluded, was “better suited for human life”;⁴⁸ it was not only superior to America in quality of land, material prosperity, and civilization but also was under better, more benign heavenly influences. Under such influences, native Americans had turned into idlers and drunkards, and needed to be disciplined by means of regimented labor.⁴⁹ In 1612, Juan de la Puente, an apologist of Habsburg claims to universal monarchy, argued that Spaniards who had once colonized all the ancient world and who had recently established colonies in Asia, Africa, and America had to acknowledge that the heavenly constellations of America had sapped the courage and wandering spirit of the Spanish. Although good for growing metals and herbs, de la Puente contended, the Indies produced only degenerate humans.⁵⁰ “The heavens of America induce inconstancy, lasciviousness and lies,” he argued, “vices characteristic of the Indians and which the constellations make characteristic of the Spaniards who are born and bred there.”⁵¹ In 1617, Samuel Purchas, the English editor of an influential compilation of travel accounts, drawing on Acosta and Botero, concluded that the new heavenly constellations of America had smaller and dimmer stars, that the sun stayed longer over Europe than the Indies in the course of a year, and that the “want of sun and stars” had rendered the New World colder, with fewer animals, spices, and fruits, and, of course, with little to show in way of an intellectual life.⁵² Even some Europeans who supported the interests and aspirations of the Creoles accepted this type of negative characterization of the American stars. For example, in 1629, León Pinelo, the magistrate who claimed that Peru was home to the original Paradise, included as the frontispiece of one of his books a representation of the stars of the New World as being less numerous. The frontispiece showed two women: the one representing the East (the Old World) was crowned by fourteen

⁴⁶ Acosta, *Historia natural y moral*, bk. 1, chap. 5: fol. 17v (on smaller stars); bk. 1, chap. 2, 13r (on darker spots in the Milky Way).

⁴⁷ Antonio de Herrera, *Historia general de los hechos de los castellanos en las islas y tierra firme del Mar Oceano* (Madrid, 1601), década 1, bk. 1, chap. 5, pp. 10–11. See also the edition by Antonio Ballesteros y Beretta, 17 vols. (Madrid, 1934–57), 2: 27–36.

⁴⁸ Giovanni Botero, *Relationi universali* (Venice, 1596), 200.

⁴⁹ Botero, *Relationi universali*, 199.

⁵⁰ Juan de la Puente, *De la conveniencia de las dos monarquías católicas la del iglesia romana y la del imperio español, y defensa de la procedencia de los Reyes Católicos de España a todos los reyes del mundo* (Madrid, 1612), bk. 3, chap. 3, p. 21.

⁵¹ Quoted in David Brading, *The First America: The Spanish Monarchy, Creole Patriots, and the Liberal State 1492–1867* (Cambridge, 1991), 363.

⁵² Samuel Purchas, *Purchas his Pilgrimage, or, Relations of the World and the Religions Observed in all Ages and Places discovered, from the Creation unto this Present, First Part*, 3d edn. (London, 1617), 911–12.

stars, while the one representing America had over her head only twelve stars (Figure 4).⁵³

Such negative European views of the stars and climate of the New World generated in the seventeenth century a particular understanding of the bodies of Indians and Spaniards living in Spanish America. Most European scholars assumed that Indians and Europeans were descendants of Adam and, therefore, shared similar bodies and minds. These essential similarities, however, were thought to have been modified by the climate and stars with “accidental” variations. For, in the words of Richard Eden, “the complexion and strength of body of [all the inhabitants of the world] are proportionate to the climate assigned to them, be it hotte or colde.”⁵⁴ The seventeenth-century literature on the origins of American Indians reveals how the understanding of America as a humid continent with negative heavenly constellations helped scholars explain the transformation of white bodies into Indian ones without having to postulate two separate racial types. The Spanish Dominican friar Gregorio García is typical of those learned Europeans who had to grapple with environmental influences to explain the origins of a characteristic Indian body type.

In 1606, as part of an encyclopedic book to explain the origins of native Americans in which he argued that the Indians had come to the New World from Asia, Africa, and Europe, García maintained that the natives might have descended from the Carthaginians. García, however, was hard pressed to explain how white, courageous, North African Carthaginians became hairless, cowardly, pusillanimous Indians. García argued that the humidity and the constellations of the Torrid Zone of America had rendered the white Carthaginians into effeminate, cold, and humid Indians. The humid complexion of the Indians, according to García, explained why they, like women and *castrati*, did not have beards and were passive, stupid, and slothful.⁵⁵ The stars of America in particular were responsible for the major organic transformations witnessed in the continent. García considered that many animals, such as the buffalo and llama, were not only unique to the continent but also “monsters.” These animals had developed monstrous bodily features away from their original Old World parents (the bull and camel) due to the continuous astral and climatic influences of the land. These differences, in much the same way that the climate and stars of the continent had permanently emasculated and darkened the former Carthaginians, had become set.⁵⁶ The degenerative dangers for contemporary Spanish white colonists of such a story were not lost on García, who, however, sought to tone down the consequences of his theory by claiming that Creoles and long-term European residents in the Indies were better prepared. Unlike the Carthaginians, who had eaten American roots and non-nutritive fruits, they were eating only nourishing European staples.⁵⁷

⁵³ Antonio de León Pinelo, *Epitome de la biblioteca oriental y occidental, náutica y geográfica* (Madrid, 1629).

⁵⁴ Eden, “Preface” to Martin Cortés, *El arte de navegar*, in Arber, *First Three English Books*, xlii.

⁵⁵ I used the facsimile of the 1729 edition of García’s work: *Origen de los indios del Nuevo Mundo*, introductory study by Franklin Pease G.Y. (Mexico City, 1981), bk. 2, chap. 5, sect. 3, p. 73.

⁵⁶ García, *Origen de los indios*, bk. 2, chap. 4, sect. 2, pp. 56–57; bk. 2, chap. 4, sect. 6, p. 63; bk. 2, chap. 4, sect. 7, p. 64; and bk. 2, chap. 5, pp. 68–69.

⁵⁷ García, *Origen de los indios*, bk. 2, chap. 5, sect. 1, p. 70.

García's views on the Indians and heredity lingered on. In a work written in Yucatan but published in 1633 in Valladolid-Spain, the Franciscan friar Bernardo de Lizana, astonished by the beauty and grandeur of Mayan ancient buildings and the complexity and extension of their polities, insisted that the Maya were the descendants of Carthaginians, for only a nation like Carthage could have the intellectual skills required to design such buildings and the military valor to conquer and consolidate such empires. Yet Lizana, who thought that the contemporary Maya were childish and brutish, argued that climate and total isolation from Carthage had been responsible for transforming ancient Carthaginians into barbarous and crude (*toscós*) Maya.⁵⁸ The views of García and Lizana were even echoed by some Creole authors. In 1681, the physician Diego Andrés Rocha published in Lima a book on the origins of American Indians in which he sought to emulate the baroque erudition of Gregorio García. Rocha, however, believed that the Indians were the descendants not of Carthaginians but of the primitive inhabitants of Spain. He maintained that Indians were in fact the descendants of ancient Spaniards even though the former were cowards and did not have beards. Rocha argued that Indians and Spaniards shared the same essential bodily complexion on which new "accidental" features had been added by the America's constellations and climate. Like García, Rocha argued that the ancient Spaniards-turned-Indians had become cold and humid and had therefore lost their martial prowess and beards. Like García, Rocha also asserted that Creoles had somehow been spared from rapidly becoming effeminate, stupid Indians thanks, in part, to the European food they ate and to the fresh contingent of European blood that arrived in the colonies with every generation and that did not allow the colonists to cut all racial ties with their homeland; these two processes had slowed and even stopped the environmentally induced degeneration.⁵⁹

CREOLE SCHOLARS REACTED ANGRILY to the negative characterizations of the stars and constellations of the New World. It was precisely at the time when such negative characterizations had come to dominate Europe's perception of the heavenly constellations of the New World that a Creole consciousness had begun to emerge in Spanish America.⁶⁰ At the turn of the seventeenth century, Creoles began to flood the court in Madrid with *memorials* pleading for extensions on grants to all existing *encomiendas* (grants in indigenous labor and tribute given by the

⁵⁸ Lizana's book originally carried the title of *Devocionario de Nuestra Señora de Izamal, y conquista espiritual de Yucatan*; I have consulted the edition by Felix Jiménez Villalba, *Historia de Yucatán* (Madrid, 1988), 54.

⁵⁹ Diego Andrés Rocha, *El origen de los indios*, José Alcina Franch, ed. (Madrid, 1988), 69, 212–17. Note that Lizana was postulating theories of speciation that resembled Charles Darwin's, particularly Darwin's emphasis on isolation.

⁶⁰ On Creole patriotism, see Brading, *First America*; Antonio Rubial García, *Una monarquía criolla: La provincia agustina de México en el siglo XVII* (Mexico City, 1990); Bernard Lavallé, *Las promesas ambiguas: Ensayos sobre criollismo colonial en los Andes* (Lima, 1993); Jacques Lafaye, *Quetzalcóatl et Guadalupe: La formation de la conscience nationale au Mexique* (Paris, 1974); Anthony Pagden, *Spanish Imperialism and the Political Imagination* (New Haven, Conn., 1990), chaps. 4–5; and John Leddy Phelan, "Neo-Aztecism in the Eighteenth Century and the Genesis of Mexican Nationalism," *Culture in History: Essays in Honor of Paul Rodin*, Stanley Diamond, ed. (New York, 1960).

crown to the leading conquistadors). The heirs of conquistadors complained that the crown was turning its back on its original commitment to foster a class of *grandees* in the New World. The descendants of conquistadors alleged that they were losing their rights to be the privileged landed nobility, wealthy enough to care for their Indian retainers and the welfare and defense of the new “colonial kingdoms” (an oxymoron). Creoles articulated a somewhat misleading view of themselves as dispossessed nobles outcompeted by ravenous, transient, Peninsular upstarts. Also at the same time, disputes broke out between Peninsulars and Creoles inside religious communities over which group had the right to govern them. The *alternativa*, an arrangement devised during those turbulent years to rotate the government of religious orders among Creole and Peninsular friars, only made things worse by reifying and essentializing identities and thus heightening conflict.⁶¹

In such a context, it is not surprising that colonial intellectuals began to write against European negative representations of America. The second quarter of the seventeenth century witnessed the maturation of a genre of patriotic astrology in which the heavenly influences on America were consistently cast as having soothing and beneficial effects, revealing God’s providential design for Spanish America. Astrology spread into every corner of colonial culture. From the few studies that track Inquisitorial trials of astrological practitioners in colonial Spanish America, it would appear that astrology was an almost heretical activity little tolerated in Catholic countries, particularly after the Council of Trent, because it went against the freedom of will.⁶² Yet this is deeply misleading. The Inquisitorial process often targeted those who communicated with evil astral intelligences (demons) and/or indulged in prophecy and political prognostication.⁶³ As the science that studied the influence of stars over temperaments and complexions, astrology was in fact officially sanctioned: colonial universities featured chairs of medical astrology, and most rituals of power were thoroughly permeated with cosmic, astrological metaphors.⁶⁴ It is no wonder therefore that astrology was deployed openly and defiantly in self-defense by the colonists.

Antonio de la Calancha was perhaps the first Creole writer to pen a sustained astrological defense of America, and he found that the “stars and signs” of the New World revealed God’s special design for the land. In a treatise published in Barcelona in 1638, Calancha, an Augustinian friar, alluded to two separate

⁶¹ Brading, *First America*, 293–301; García, *Una monarquía criolla, passim*; Israel, *Race, Class, and Politics in Colonial Mexico*, 84–87. Israel describes how Archbishop Juan Pérez de la Serna ordered the imprisonment of the Spanish Jesuit Gómez after having denounced Creoles as incompetent, corrupt, and incapable of holding public office in a sermon of August 1618. The archbishop also ordered sermons praising the Creole intellect.

⁶² Irving A. Leonard, *Baroque Times in Old Mexico: Seventeenth-Century Persons, Places, and Practices* (Ann Arbor, Mich., 1959), 85–98; and Elías Trabulse, *El círculo roto* (Mexico City, 1984), 34–37.

⁶³ The Inquisitorial documents on which both Trabulse and Leonard have based their generalizations have been published by José Miguel Quintana, *La astrología en la Nueva España en el siglo XVII: De Enrico Martínez a Sigüenza y Góngora* (Mexico City, 1969). The files reveal that the Inquisition in fact forced those who put the scientific status of astrology in doubt to recant; see, for example, 193–94.

⁶⁴ Trabulse, *El círculo roto*, 30; Octavio Paz, *Sor Juana, or, The Traps of Faith* (Cambridge, Mass., 1988), *passim*. For a characterization of Baroque science, including astrology, in colonial Spanish America, see Jorge Cañizares Esguerra, “Spanish America: From Baroque to Modern Colonial Science,” in *The Eighteenth Century*, Roy Porter, volume ed., *The Cambridge History of Science*, David Lindberg and Ronald L. Numbers, general eds. (Cambridge, forthcoming).

unpublished volumes he had written on the constellations of the Southern Hemisphere. These studies, he maintained, would supersede anything Europeans had previously published on the subject. He had found, so he asserted, in the heavens of Peru, “buckets [*manos llenas*] of heavenly wonders, and whole pieces of sky crowded with stars unknown to astrologers and sailors.”⁶⁵ According to Calancha, the stars of America were the largest, brightest, and most numerous in the world; in fact, most of the forty-eight constellations Europeans had identified in the skies lay in the Southern Hemisphere. A few of his astrological writings, which appear not to have survived Calancha and in which he also offered a detailed astrological reading of the heavenly influences over *all* the major Spanish-American cities and provinces, found their way into his 1638 treatise as short excerpts identifying the ascendant stars of a handful of important towns in the viceroyalty of Peru. Every time, he found that the land was under the most benign astral influences.⁶⁶ Calancha also maintained that portentous heavenly phenomena in Europe or the rest of the world would lose their potency in the Indies. Thus, for example, eclipses that in Asia, Africa, and Europe would set off horrible celestial visions, harmful comets, and devastating fires when they happened under Aries, Leo, and Sagittarius, or that would trigger famines and epidemics when they occurred under Gemini, Libra, and Aquarius, would create in Peru mere focal epidemics that spared most of the population.⁶⁷ According to Calancha, Peru was under so many new stars that the land was ruled by entirely different and auspicious new Zodiac signs. The five-star constellation of the Southern Cross, for example, had a cross-like figure that kept away demons responsible for stirring up the waters. It was for this reason, he argued, that the southern sea was calm and received the name of “Pacific” Ocean. Calancha, in fact, believed that Peru was blessed; God had chosen to protect it by giving Peru not only cross-like constellations but also cross-like fossils, stones, and plants.⁶⁸

In 1646, in a natural and moral history written in part to prove that Chile was one of the most temperate and bountiful lands in the world, the Creole Jesuit Alonso de Ovalle found the skies of Chile privileged and made a distinction between the misty opaque skies of Torrid America and the clear bright ones of the southernmost tip of the continent. For his brand of patriotic astrology, Ovalle drew on the studies of the Dutch disciple of the distinguished Flemish scholar Petrus Plancius, Pieter Dircksz Keyser, who shortly before dying aboard a vessel bound to Madagascar and the East Indies in 1597 produced along with Frederick de Houtman the most complete catalogue of southern stars then available. It was later used by European cosmographers and astronomers such as Plancius, Willem Janszoon Blaeu, Johann Bayer, Jacob Bartsch, Jodocus Hondius, and Johannes Kepler. Referring to Dircksz as Pedrus Theodorus, learned astrologer and pilot, Ovalle offered a list of the fourteen new constellations: *Chamaeleon* (Chameleon); *Aspid Indica* (*Musca* or the

⁶⁵ Antonio de la Calancha, *Corónica* [sic] moralizada del orden de San Agustín en el Peru (Barcelona, 1638), 48–49.

⁶⁶ Calancha, *Corónica moralizada*, 239–42 (Lima); 486–87 (Trujillo); 523 (Chuquisaca); 548–49 (Pascamayo); 747 (Potosí); 866–67 (Pucarani).

⁶⁷ Calancha, *Corónica moralizada*, 48.

⁶⁸ Calancha, *Corónica moralizada*, 49–50 (on the Southern Cross); 56–59 (on cross-like plants and fossils).

Fly?); *Volans* (Flying Fish); *Dorado* (Swordfish); *Hydra* (Water Snake); *Tucana* (Toucan); Phoenix; *Grus* (Crane); *Columba* (Noah's Dove); *Indus* (Indian); *Pavo* (Peacock); *Apus* (Bird of Paradise); *Triangulum Australe* (Southern Triangle); *CruX/Cruzero* (Southern Cross). Ovalle overcounted the stars given in Dircksz's and Houtman's original catalogues and concluded that the stars over Spanish America were more numerous, larger, brighter, and more benign than those in Europe (Figures 5 and 6).⁶⁹

A third strategy of Creole patriotic astrology was that pursued by the Mercedarian Diego Rodríguez in Mexico in 1652. Rodríguez, a seminal Creole natural philosopher, the first holder of the chair of mathematics at the University of Mexico and the author of highly sophisticated mathematical treatises, maintained that the heavens of New Spain were under the protection of the Immaculate Conception, for in Mexico "there is no [heavenly] sign that, although shocking and surprising for the ignorant, does not serve the Queen of Heaven and [help] explain her glories."⁷⁰ To clarify the meaning of such claims, Rodríguez offered an exegesis of the comet of 1652. After charting the comet's path through the constellations, Rodríguez argued that it was associated symbolically with the Immaculate Conception. The comet, Rodríguez averred, had moved from Noah's Dove to Medusa. Echoing a broader intellectual movement among Counter Reformation intellectuals that sought to depaganize the skies by means of alternative Christian readings of the heavenly constellations, Rodríguez argued that the constellation of *Columba*, Noah's Dove, stood for purity not unlike that of Mary, whose immaculate conception had spared her a post-Lapsarian human nature. He also insisted that the constellation of Medusa represented the dragon that had sought to kill the pregnant Virgin's child, according to Chapter 12 of the Apocalypse (Revelation 12: 3–5). The fantastic battles of the Immaculate Conception (Our Lady of Guadalupe) in Mexico against the dragon of Aztec idolatry were recapitulated in the skies of Mexico. They proved that Mexico was a prime and secure environment. Since the image of the Immaculate Conception was a Virgin eclipsing the sun, Rodríguez also presupposed

⁶⁹ Alonso de Ovalle, *Histórica relación del reyno de Chile* (Rome, 1646), bk. 1, chap. 22, pp. 49–51. Ovalle overcounted the number of stars in *Volans*, 7, when in fact Dircksz and Houtman had counted only 5, in *Dorado* (5 instead of 4), in Toucan (8 instead of 6), Phoenix (14 instead of 13), Crane (13 instead of 12), *Indus* (12 instead of 11), *Apus* (12 instead of 9), and *Triangulum* (5 instead of 4). Ovalle, however, lowered the counts of the Southern Cross (4 instead of 5), *Chamaeleon* (5 instead of 9), and *Pavo* (16 instead of 19). He also included a chart of the southern skies, a slight variation of that offered by Corsali some hundred years before. On Dircksz and Houtman and the popularization of their catalogues, see Deborah J. Warner, *The Sky Explored: Celestial Cartography, 1500–1800* (Amsterdam, 1979), 14–16, 18–19, 28–31, 121, 201–06. For a translated copy of Houtman's catalogue, see E. B. Knobel, "On Friederick de Houtman's Catalogue of Southern Stars and the Origin of the Southern Constellations," *Monthly Notices of the Royal Astronomical Society* 76 (1917): 414–32. At about the same time that Ovalle published his natural history of Chile, the Jesuit Bernabé Cobo, a Spaniard who spent most of his life in Peru and Mexico, articulated a similar defense of the southern skies. Cobo appeared not to know the catalogues of Dircksz and Houtman. However, he described a series of southern constellations (*Cruzero*, *Triangulum*, and a third one he gave the idiosyncratic name of *Fiducia*, which appears to correspond with *Hydra*). Cobo also described two Magallemic Clouds and argued that the Milky Way in the Southern Hemisphere was more luminous and had more stars than in the Northern Hemisphere. Cobo forcefully argued that the skies of the Southern Hemisphere had bigger and more numerous stars than in the Northern. See *Obras del Padre Cobo*, 1: 27–31.

⁷⁰ Diego Rodríguez, *Discurso etheorológico del nuevo cometa* (Mexico City, 1652), fol. 4v. Trabulse has reproduced parts of Rodríguez's *Discourse* in *Historia de la ciencia en Mexico (edición abreviada)*, Elías Trabulse, ed. (Mexico City, 1994), 324–37.

that eclipses, as well as any other heavenly phenomena (including the comet of 1652) in Mexico under the protection of Our Lady of Guadalupe, could only be harbingers of joyous news. For example, he maintained that the path of the comet through Mars showed that this particular comet would bring wisdom to local colonial authorities, since Mars symbolically stood for wisdom.⁷¹ The genre of patriotic astrology proved so appealing that even a member of the acculturated Indian intelligentsia deployed it for his own purposes. Felipe Guamán Poma de Ayala, an early seventeenth-century Indian chronicler from the province of Huamanga, Peru, argued both in painting and in prose that the Andes were closer to the sun than Castile and therefore were richer and better, for, according to “philosophers, astrologers and poets,” the sun had important positive astrological influences over lands (Figure 7).⁷²

Patriotic astrology notwithstanding, Creoles faced a seemingly insurmountable challenge when they sought to defend the New World. To sustain the notion that the New World was a temperate Paradise implied, of necessity, arguing that the Indians were superior to Europeans, for only bright, civilized individuals could possibly be born in the original Garden of Eden. Bartolomé de las Casas, the spirited Spanish Dominican who devoted his life to the protection of Indians, showed the dangers of a sustained logical defense of the environment, for he demonstrated in the 1550s that praising the New World for its paradisaic qualities implied also an argument for the mental and physical superiority of Indians over Europeans. After waxing eloquent about the beauty of the land and describing the mechanisms that made the Torrid Zone temperate, Las Casas maintained that America was one of the most salubrious and temperate environments on earth. True to his hypothesis, Las Casas argued that Indians were exceptional individuals. He drew on traditional Hippocratic-Galenic medical physiology and medieval faculty psychology to argue that since the natives lived in extremely temperate climates they therefore had privileged mechanisms of perception and superior intelligence. Moreover, Las Casas argued that, in addition to the American environment contributing to produce Indians whose five internal senses and understanding were clean of clouding fumes and animal spirits, Indians enjoyed lifestyles, including naturalistic diets and monastic sexual habits, that cleared their brains of any obtrusive, internal, clouding vapors.⁷³ In Las Casas’ version of things, Indians were among the sharpest people on earth.

But colonists in Spanish America were not interested in creating defenses of the

⁷¹ Rodríguez, *Discurso etheorológico*, fols. 24r–32v.

⁷² Felipe Guamán Poma de Ayala, *Nueva crónica y buen gobierno*, John Murra, Rolena Adorno, and Jorge Urioste, eds., 3 vols. (Madrid, 1987), 1: 40.

⁷³ Bartolomé de las Casas, *Apologética historia sumaria*, Edmundo O’Gorman, ed., 2 vols. (Mexico City, 1967), 1: 1–205, esp. 158–63, 169–74, 201–05. Las Casas’ only negative observation was that the natives tended to reproduce when they were young and their “seeds” still “humid.” Such humidity caused their offspring to have some vapor in their brains and therefore some perceptual distortions. On medieval faculty psychology and later developments in the Renaissance, see Nicholas H. Steneck, *Science and Creation in the Middle Ages: Henry of Langenstein (d. 1397) on Genesis* (Notre Dame, Ind., 1976), 130–37; Steneck, “Albert on the Psychology of Sense Perception,” in James A. Weisheipl, ed., *Albertus Magnus and the Sciences* (Toronto, 1980), 263–90; Katherine Park, “The Organic Soul,” in C. Schmitt, Q. Skinner, E. Kessler, and J. Kraye, eds., *The Cambridge History of Renaissance Philosophy* (Cambridge, 1988), 464–84.

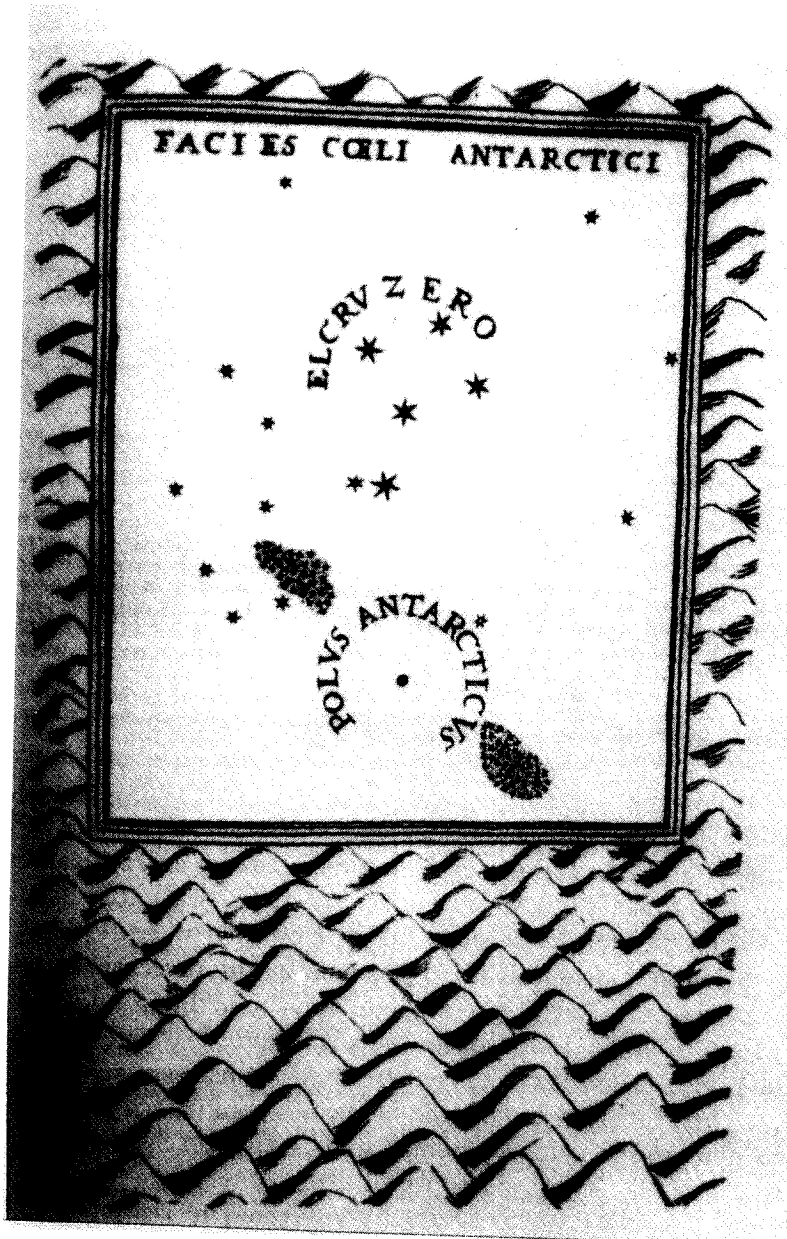


FIGURE 5: "Face of the Antarctic Skies," in Alonso de Ovalle, *Histórica relación del reino de Chile* (Rome, 1646). This chart is a variation of Andrea Corsali's. Like Corsali's, it includes the Southern Cross and two Magellanic Clouds.

colonial lands that mimicked Las Casas. After all, these groups had long profited from representing the Indians as indolent phlegmatics who needed to be disciplined to work. From the outset of the conquest, Indian forced labor became a vital institution of the Spanish empire.⁷⁴ The subsistence economy of local indigenous

⁷⁴ Charles Gibson, *The Aztecs under Spanish Rule: A History of the Indians of the Valley of Mexico, 1519–1810* (Stanford, Calif., 1964), 117–18; Steve J. Stern, *Peru's Indian Peoples and the Challenge of Spanish Conquest: Huamanga to 1640* (Madison, Wis., 1982), 102–04, 156–57.



FIGURE 6: A typical seventeenth-century sky chart of the Northern and Southern hemispheres, which includes Pieter Dircksz Keyser and Frederick de Houtman's new southern constellations. From John Seller, *Atlas maritimus* (London, 1675). Reproduced with permission of the John Carter Brown Library, Brown University.

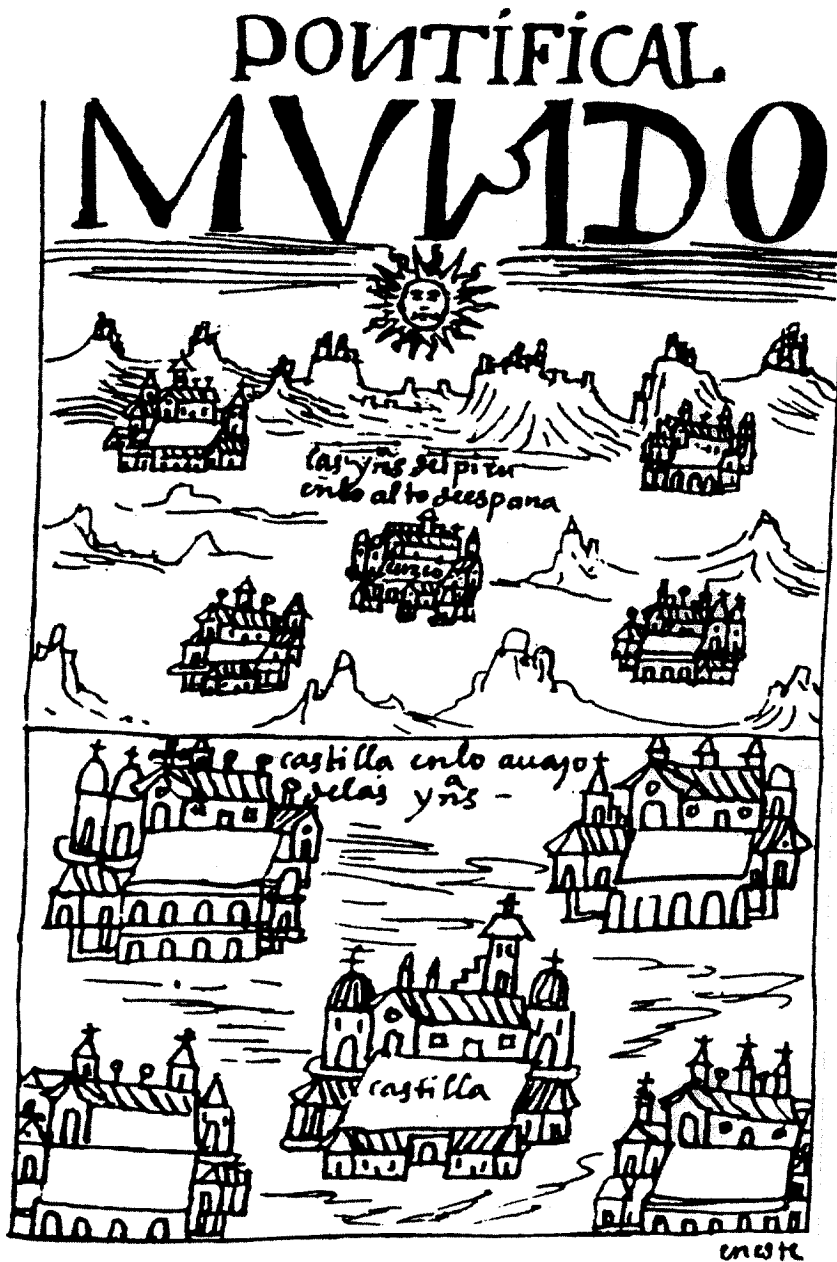


FIGURE 7: The “Indies of Peru” lie closer to the sun than Castile, which is “below” the Andes. Proximity to the benign astrological influence of the sun makes the Indies better than Spain. From Felipe Guamán Poma de Ayala, *Nueva crónica y buen gobierno* [ca. 1615] (Madrid, 1985).

communities created shallow colonial labor markets and therefore the need for coercive mechanisms to supply ranches, textile factories (*obrajes*), mines, plantations, haciendas, and Spanish households with indigenous labor. Thus the ideology of the lazy native helped justify the institutionalization of labor coercion.⁷⁵ The

⁷⁵ On the “myth of the lazy native” in other colonial settings, see Syed Hussein Alatas, *The Myth of*

construct of the phlegmatic Indian was a central ideological figure that allowed Spaniards to mobilize by force thousand of natives through the infamous institution of the *mita*. By the mid-sixteenth century, Spanish colonialist knowledge had articulated a view of the Indian in which the Hippocratic writings and Galen were mustered to justify forced labor systems:

About 1570, in a treatise on the Indians of Peru addressed to Juan de Ovando, president of the Council of the Indies, Lope de Atienza argued that the Indians were phlegmatic and, due to their excess humidity, lacked beards and therefore were unable to do manly things that “required daring, constancy, and wisdom,” for they did not have the biological foundation to feel obliged to do “graver things, things of better quality and standing than [those done by] women.”⁷⁶ Their humid and phlegmatic complexion made them not only effete but also idle, unwilling to work, and given to bouts of depression, curable only through harsh regimes of labor discipline.⁷⁷ These views were echoed down the centuries. By the early decades of the seventeenth century, Creoles wholeheartedly embraced the paradigm of the phlegmatic, effeminate Indian. The prestigious Spanish jurist, Juan Solórzano Pereira, whose long stint in the Indies made him a staunch defender of Creole interests before the court in Madrid, made the paradigm of the phlegmatic Indian who should be forced to work widely available in the 1620s in the pages of his monumental *Política indiana*.

Solórzano argued that “no less different are the customs of each region than the air that washes them,” and therefore “the good legislator should always tailor his precepts to the regions and to the disposition and capacities of the people to whom they are addressed.”⁷⁸ Solórzano drew two different conclusions from this premise. On the one hand, he argued, “It would be a mistake to seek to instruct all [Indians] in the same way, for even during the time of their paganism they had as many petty kings and *caciques* as their complexions and temperaments were varied.”⁷⁹ A single law for all Indians was not appropriate because the climates of the Indies were varied. His second conclusion, directly contradicting the first one and more important for the purposes of this article, was that, since all Indians were phlegmatic, the crown should follow the example of Aztec and Inca rulers who, to fight Indian idleness, had forced their subjects to do things as absurd as collect and fill bags with fleas for the sole purpose of keeping them busy during periods of rest.⁸⁰ On such grounds, Solórzano supported institutionalized coercion and the forced labor system of the *mita*.⁸¹ A Spanish Jesuit long resident in the Indies,

the Lazy Native: A Study of the Image of the Malays, Filipinos, and Javanese from the 16th to the 20th Century and Its Function in the Ideology of Colonial Capitalism (London, 1977).

⁷⁶ Lope de Atienza, “Compendio historial del estado de los indios del Piru, con mucha doctrina y cosas notables de ritos, costumbres, e inclinaciones que tienen, con otra doctrina y avisos para los que viven entre los neophitos,” Archivo de la Real Academia de Historia, Madrid, 9/4790, Colección Muñoz, tomo 11, fol. 25r.

⁷⁷ *Ibid.*, fols. 37r, 56r–v.

⁷⁸ Juan de Solórzano Pereira, *Política indiana*, 5 vols. (Madrid, 1972), bk. 2, chap. 25, sect. 8 (1: 385).

⁷⁹ Solórzano Pereira, *Política indiana*, bk. 2, chap. 25, sect. 9 (1: 385).

⁸⁰ Solórzano Pereira, *Política indiana*, bk. 2, chap. 6, sect. 32–33 (1: 176–77).

⁸¹ On Solórzano, see James Muldoon, *The Americas in the Spanish World Order: The Justification for Conquest in the Seventeenth Century* (Philadelphia, 1994); and Javier Malagón Barcelo and José M. Ots Capdequí, *Solórzano y la Política indiana*, 2d edn. (Mexico City, 1983).

Bernabé Cobo, captured well the biological discourse underwriting the ideology of the lazy Indian in the mid-seventeenth century: "All of them are phlegmatic by nature, and since natural phlegm makes the substance of one's limbs soft and moist, their flesh is very soft and delicate. As consequence, they tire easily and are incapable of working as hard as the Europeans. In Spain a single man does more work in his fields than four Indians will do here."⁸² But for all its positive ideological uses, the view that Indians were indolent phlegmatics also carried the assumption, implicit in the Hippocratic and Galenic theory of humors and complexions, that negative bodily temperaments were caused by negative climatic and astral influences affecting everybody, not only the Indians.

Creoles and long-term European residents in the Indies were left facing an extraordinary paradox: how to maintain that America was under benign, soothing cosmic influences without giving up their construct of the Indians as phlegmatic miscreants. The works of León Pinelo and Salinas y Córdova that I reviewed in the introduction show the path taken by colonial intellectuals, that is, to postulate the existence of separate bodies for Indians and European, which would make any radical transformation due to climatic or astral influences unlikely, if not impossible. This discourse permeated the works of the most important representatives of Creole patriotism in the seventeenth century.

How the discourse of two separate bodies worked in practice can be detected in the writings of Calancha, the same Augustinian friar who, wearing the hat of patriot astrologer, maintained that the skies of the Indies were protected by cross-like constellations whose soothing influences kept demons away and pacified the waters of the southern seas. I choose Calancha to typify the views of Creole patriots on race because he was one of the few Creole scholars in the century who explicitly denied that Indians were the cursed descendants of Ham, born to serve their European masters.⁸³ Yet, for all his efforts to present the Indians as vassals rather

⁸² Bernabé Cobo, *History of the Inca Empire*, Roland Hamilton, trans. and ed. (Austin, Tex., 1979), 17.

⁸³ Calancha, *Corónica moralizada*, 35–39. At the turn of the seventeenth century, most learned colonists were of the opinion that the skin color of blacks and Indians and their purported servile behavior was not caused by environmental influences at all but originated in Noah's curse of Ham's descendants. Besides the already reviewed cases of Salinas y Córdova and León Pinelo, see Solórzano Pereira, *Política indiana*, bk. 1, chap. 5, sect. 35 (1: 59); and Torquemada, *Monarchia indiana*, bk. 1, chap. 10, p. 33; bk. 14, chap. 15, pp. 602–03; bk. 144, chaps. 18 and 19, pp. 609–14. Torquemada, who described the color of blacks and Indians as "bad blood engendered [by Noah's curse] in those poisoned bodies," however, also described the bodies of Indians favorably: they enjoy a temperate complexion, have proportionate bodies, their physiognomies reveal sharp souls, and their understandings and external senses are privileged (chap. 24, pp. 620–21); he even maintained that the heavenly constellations and climate of the Indies not only caused the land to be temperate but also its peoples to be beautiful and intelligent (chap. 25, p. 623). The color of the Indians was perceived as a singularity of nature, a puzzle to exercise the minds of philosophers, because the climate of America was varied yet the color of Indians and the quality of their hair was thought to be uniform; see Francisco López de Gómara, *Historia de las Indias y conquista de Mexico* (Zaragoza, 1552), chap. "Del color de los Indios," fol. cxvii; Cobo, *History of the Inca Empire*, 11, 14–15. Cobo considered the color of Indians to be one of the greatest puzzles of America; he also considered a secret of nature, one "great indeed," the fact that Indians and Spaniards inhabited the same climate yet remained two physically distinct nations. On Noah's curse and European colonialism and racism, see William McKee Evans, "From the Land of Canaan to the Land of Guinea: The Strange Odyssey of the 'Sons of Ham,'" *AHR* 85 (February 1980): 15–43; and Benjamin Braude, "The Sons of Noah and the Construction of Ethnic and Geographical Identities in Medieval and Early Modern Periods," *William and Mary Quarterly*, 3d ser., 54 (1997): 103–42.

than servants of the Spanish monarchy, Calancha was forced to grapple with the paradox raised by his view of America as paradisaic and providentially designed. If the continent was as temperate and under as benign astral influences as Calancha claimed, it followed that Europeans, coming from colder climates, should have turned out to be less intelligent than the Indians. But Calancha, who could not stomach those who insisted Indians were servants by nature, could never allow the possibility that they were in fact more intelligent than their European masters.

Calancha was aware that an idyllic representation of the New World implied of necessity that the temperate Indians were more intelligent than the colder Europeans. However, he denied that this meant a threat to the entire structure of contemporary medical knowledge, even though Aristotle's view that peoples from colder climates were less intelligent than those who hailed from warmer lands had been influential for a long time.⁸⁴ The heads of those from colder climates, according to Calancha's version of Aristotle, were deemed to be full of animal spirits, which, clouding the transfer, manipulation, and recovery of mental images in the five internal senses, hampered the correct operation of the understanding. Inhabitants of temperate climates, on the other hand, had less vital heat inside their bodies, and therefore their heads were thought not to have clouding vapors limiting perception; they were expected to be more intelligent. Solely on the logic of this argument, American Indians, the original inhabitants of the paradisaic New World, should have been more intelligent than their colder European masters. Since Calancha was unlikely to be drawn to this possibility, two other alternatives were left. The first one implied debunking the Ancients, joining the Moderns in an effort to invent and develop new understandings of the operations of the body. But joining René Descartes' call to dismiss authority and create new theories in solipsistic bouts of philosophical meditations was something Calancha was not suited to, given the fact that he was a scholar who typified the calls of the Counter Reformation to respect and uphold authority. Rather, Calancha chose the more palatable alternative of embracing Aristotle while at the same time negating the idea that climate and astral influences could induce deep transformative changes. The result of this operation to salvage Aristotle's paradigm, however, was a profound break with ancient views on environmental determinism.

Although Calancha did not offer any details as to the composition of Indian, black, and white bodies, he insisted that within each group Aristotle's dictum to the effect that peoples of warmer climates were more intelligent than those of colder ones held true. So, according to Calancha, coastal Indians were smarter than Andeans because the latter lived in colder climates; blacks born in Lima were more intelligent than their African parents because Lima was more temperate than Africa; and finally Creoles were sharper than Peninsulars because Europe was colder than Spanish America. Calancha, however, introduced the idea that profound, innate racial differences separated the bodies of Indians, Creoles, and blacks, which rendered transformations of one group into another impossible. The "materials" that made up the bodies of Indians, African blacks, and European white colonists, however, were so different, Calancha argued, that different results should

⁸⁴ Aristotle, *The Politics*, T. A. Sinclair, trans. (London, 1962), bk. 7, chap. 7, p. 269.

be expected from the operation of similar climatic and astral influences, in much the same fashion that the sun caused wax to melt but clay to harden.⁸⁵ On this, Calancha cited the authority of Enrico Martínez (Heinrich Martin), an émigré German physician-polymath who in the late sixteenth and early seventeenth century participated in heated medical debates in Mexico on the nature and composition of Indian and Creole bodies. In order to understand Calancha's reference to Martínez, we need to turn back to late sixteenth-century New Spain, where the racialist paradigm was first hammered out.

Writing from Mexico City in 1591, the émigré Spanish physician long resident in the Indies, Juan de Cárdenas, authored a book whose originality and import has been overlooked; indeed, it could be argued it was the first modern treatise on racial physiology. Cárdenas presented his treatise as a survey of the secrets and marvels of the Indies in which he sought to understand diverse aspects of America, such as why it went through frequent earthquakes, why honey was sour, why animals appeared not to suffer from rabies, and why crawling creatures were less poisonous (all of which he explained using the paradigm of America's humidity).⁸⁶ Cárdenas was also interested in human marvels, so he set out to explain why Creoles aged sooner than their Peninsular parents (the humidity of the Indies made them compensate and lose vital heat, and thus their bodies dried sooner);⁸⁷ grayed faster (humidity dampened the body's vital heat, which in turn caused the body to produce more phlegm than cholera or blood; since hair was made up of bodily excrement and since phlegm was white, Creoles grayed faster);⁸⁸ suffered from more stomach problems (humidity weakened the natural heat of the stomach and also kept food from being cooked and digested well);⁸⁹ tended to be healthy when old but plagued by diseases when young (local humidity compensated for the lack of vital heat and dryness of the elderly but compounded the problems of the youth);⁹⁰ and suffered from menstrual cramps (humidity created obstructing viscous substances that clogged the veins of a woman's uterus, which made the release of surplus blood painful).⁹¹

Gray hair, frequent diarrhea, painful menstrual cramps, and lack of longevity notwithstanding, Cárdenas went to great lengths to point out that the diseases caused by a humid-phlegmatic composition should not be confused with the complexion of the Indians. The problems of white people in the Indies were caused by an "accidental" phlegmatic complexion, an environmentally induced superficial quality, in addition to a naturally sanguine temperament. The phlegmatic constitution of the Indian was, on the other hand, "natural."⁹² Cárdenas's use of the terms

⁸⁵ Calancha, *Corónica moralizada*, 68. Calancha introduces his racialist paradigm in other passages, for example, on page 64 he argues that the fact that the Indians, unlike Spaniards and blacks, do not suffer from goiter, mental illnesses, kidney stones, heart diseases, or asthma is attributable to a distinct Indian phlegmatic constitution and unrelated to what the Indians drink or eat (as some liked to believe).

⁸⁶ Cárdenas, *Problemas y secretos maravillosos*, 92–97, 178–81, 255–60, 260–65.

⁸⁷ Cárdenas, *Problemas y secretos maravillosos*, 203, 206–07; Creole idleness and luxury also compounded the problem, for the humors of food were not burned off by exercise.

⁸⁸ Cárdenas, *Problemas y secretos maravillosos*, 214–15.

⁸⁹ Cárdenas, *Problemas y secretos maravillosos*, 241.

⁹⁰ Cárdenas, *Problemas y secretos maravillosos*, 239.

⁹¹ Cárdenas, *Problemas y secretos maravillosos*, 247–49.

⁹² Cárdenas, *Problemas y secretos maravillosos*, 215.

“natural” and “accidental”⁹³ was not casual; it tapped into conventions he and his readers took for granted, namely, Aristotle’s metaphysics. In Aristotelian parlance, the word “natural” referred to the predictable behavior of objects and organisms, whereas the word “accidental” referred to the passing properties of “forms.” Substantial “forms,” according to Aristotle, gave matter its *changeless* attributes, whereas “accidental” forms explained change and referred to passing characteristics of objects.⁹⁴ Clearly, the reference in Cárdenas to “natural” complexion conveyed the notion of innateness. According to Cárdenas, the environment could not change “natural” racial traits and effect profound bodily transformations that would lead Creoles to mutate into Indians; astral influences and climate worked simply within limits set by innate bodily differences.

To maintain his essentializing and reified bodily categories, Cárdenas was forced to devise contrived and unpersuasive theories. In order to explain why Indians never grayed but Creoles did, Cárdenas argued that Indians, though phlegmatic in “nature,” lacked excess “accidental” phlegm, the origin of gray hair.⁹⁵ The question of why Indians were beardless and never went bald whereas Creoles lost hair as they aged but had abundant beards prompted him to ask why they should be different if both groups lived in the same environment, ate the same food, and drank the same water. This question, however, was relevant only if one assumed, in Cárdenas’s words, that “the composition and organization of our [body] and theirs is one and the same.”⁹⁶ This clearly was not the case. So profound were the differences between Indians’ and Creoles’ bodies that Cárdenas presented two strikingly different views of each group. Creoles went bald as they lost vital heat (because they aged sooner), the skin on their skulls became tighter and drier and obstructed the release of hair, a bodily excrement. The Indian was phlegmatic by nature and bound to stay always humid; he therefore never lost hair. Spanish Americans, due to their sanguine and choleric complexion, were tight and dry with a patina of “accidental” phlegm added by the humid climate of the Indies. The Indians, on the other hand, were moist and soggy, phlegmatic by nature.⁹⁷ The humid character of the Indians made them effete and therefore caused them to be beardless.⁹⁸ The only advantage Indians had over their European masters was that, due to their lack of “accidental” phlegm, they did not suffer from joint aches (*reumas*), urinary tract infections (*mal de orina*), gallstones (*mal de ijada*), and stomach problems.⁹⁹ Cárdenas did not discuss the possibility that the “accidentally” humid-phlegmatic yet “naturally” dry-choleric Creoles were becoming Indians. Creoles, Cárdenas maintained, had been born to Peninsular parents whose temperament was choleric, but they were slightly transformed in the Indies to acquire an even better sanguine complexion, which gave them better mental qualities than their parents born in colder climates. Creole brains were cleaner of clouding animal spirits, allowing them to manipulate

⁹³ The English words are the same in Spanish.

⁹⁴ Jonathan Barnes, *Aristotle* (Oxford, 1982); and Abraham Edel, *Aristotle and His Philosophy* (Chapel Hill, N.C., 1982).

⁹⁵ Cárdenas, *Problemas y secretos maravillosos*, 216.

⁹⁶ Cárdenas, *Problemas y secretos maravillosos*, 217.

⁹⁷ Cárdenas, *Problemas y secretos maravillosos*, 218–19.

⁹⁸ Cárdenas, *Problemas y secretos maravillosos*, 221.

⁹⁹ Cárdenas, *Problemas y secretos maravillosos*, 249–51.

and retain mental images in their internal senses better than their European parents.¹⁰⁰

The views of Cárdenas were to reverberate in Mexico in the years to come when two émigré physicians, one German and one Spanish, engaged in heated debates over how to determine the stars and constellations that ruled over New Spain and over the complexion of its peoples. In 1606, Martínez, the German polymath, was hired to oversee the works to drain the capital, and he argued that Mexico was under the influence of Capricorn and that plagues were likely when a conjunction of Mars and Saturn occurred under this Zodiac sign.¹⁰¹ Mexico, Martínez contended, had witnessed three such planetary conjunctions since 1519 and therefore had suffered three devastating epidemics that had decimated the indigenous population. The plagues, however, had spared most Spanish colonists. To explain the causes of such a curious selective pattern of the epidemics, Martínez drew from Cárdenas and contended that Creoles and Indians had different complexions and therefore different physiological reactions to similar climatic and astral influences. Saturn and Mars (warm and dry) had temperaments contrary to that of the Indians (cold and humid) and therefore triggered a surge of bile and cholera, which in turn created the feeble complexions that wiped the Indians out.¹⁰² Martínez introduced the same distinctions between natural and accidental complexions used by Cárdenas a few years earlier. According to Martínez, the Indians were “naturally” phlegmatic (and thus prone to be debilitated by the conjunction of Saturn and Mars under Capricorn) and “accidentally” sanguine. Since, according to Martínez, Mexico was ruled by Venus (which stimulated the production of phlegm) and the sun (which stimulated the production of blood), the natives were doubly phlegmatic due to the added effect of Venus over their essential nature, yet they were also slightly sanguine due to the influence of the sun.¹⁰³ Creoles, however, were immune to the debilitating phlegmatic influences of Venus because they were essentially choleric (cholera was able to repel phlegm); they responded only to the beneficial sanguine influence of the sun. Like Cárdenas, Martínez asserted that the Creole choleric inheritance had turned sanguine in Mexico under the benign planetary influence of the sun. Creoles were more intelligent than their Spanish parents although weaker.¹⁰⁴

By positing such radical racial differences, Martínez maintained that he was able to reply to those critics of America who argued that “if the qualities of these lands are suited to create good minds, those native to the land should enjoy very good ones . . . so much so that they [the Indians], and also blacks, should be as intelligent

¹⁰⁰ Cárdenas, *Problemas y secretos maravillosos*, 208–13. Yet the more humid Creoles lacked constancy and perseverance (213).

¹⁰¹ Enrico Martínez, *Repertorio de los tiempos y historia natural desta Nueva España* (Mexico City, 1606), bk. 3, chap. 1, pp. 157–60. According to Martínez, Mexico was also under the dominant influences of Pegasus, Taurus, and Leo, and the planet Venus; see bk. 3, chap. 3, pp. 163–64. In bk. 1, chaps. 3–6 (pp. 4–14), Martínez discusses how the planets and constellations control sublunar phenomena, including meteorological changes and human complexions. On Martínez, see Francisco de la Maza, *Enrico Martínez, cosmógrafo e impresor de Nueva España* (Mexico City, 1943); and Louisa Schell Hoberman, “Enrico Martínez: Printer and Engineer,” in *Struggle and Survival in Colonial America*, D. G. Sweet and G. B. Nash, eds. (Berkeley, Calif., 1981), 331–46.

¹⁰² Martínez, *Repertorio de los tiempos*, bk. 3, chap. 2, pp. 160–63.

¹⁰³ Martínez, *Repertorio de los tiempos*, bk. 3, chap. 12, pp. 178–81.

¹⁰⁴ Martínez, *Repertorio de los tiempos*, bk. 3, chap. 13, pp. 181–83.

as the Spaniards, for all of them share [the qualities of the environment] equally. Experience, however, proves the opposite because these peoples [Indians and blacks] have [mental] abilities far inferior to that of the Spaniards. One should therefore conclude that this land has none of the properties alleged by its supporters."¹⁰⁵ Martínez identified the crucial paradox with which Creole patriots had to grapple for the rest of the century. How could a superior land, America, be home to Indians and blacks believed to be far inferior to their European masters?

Martínez responded to the arguments of the imagined critic by insisting that the properties of place could not be judged by the quality of its peoples. "Universal causes," Martínez argued, "are modified according to the quality of the matter [upon which the climate acts] influencing diverse subjects differently; fire burns both dry and green wood but far faster the former than the latter. The complexion of blacks is very different from that of Spaniards, so too is that of Indians. That is the reason why similar general influences in this kingdom do not produce the same effect in all [populations] but according to the temperament, disposition of the brain and body organs [of each]. From this proceeds the diversity of the genius of the [three] said nations."¹⁰⁶ Martínez insisted that, just as fire acted differently on dry and green wood, the environment of the Indies should not be expected to behave in any other way, because Indians, blacks, and Europeans were made of different "matter." Astral and climatic influences, Martínez added, did in fact cause important behavioral changes but within set limits established by rigid racial differences. So, according to Martínez, individuals in each of the three "nations" were expected to change according to climate in which they lived: Peninsulars who moved to the Indies and their offspring enjoyed better complexions because they moved from colder to more temperate climates; blacks born in America were vastly superior to those of Africa; and the Indians of New Spain were more civilized than those of the Caribbean and Florida.¹⁰⁷

A few years later, the views of Martínez were paradoxically reinforced by Diego Cisneros, an émigré Spanish physician. Paradoxically because, in 1618, Cisneros published a book in part to take issue with Martínez's astrological characterizations of the lands and peoples of Mexico. Cisneros argued that Mexico was not ruled by Capricorn, Venus, or the sun as Martínez had maintained.¹⁰⁸ Cisneros averred that to determine the ascendant stars of Mexico, two elements were needed, the date of foundation of the capital and its location (both longitude and latitude), and Martínez had failed to provide either one correctly. According to Cisneros,

¹⁰⁵ Martínez, *Repertorio de los tiempos*, bk. 3, chap. 23, p. 176 [really 203; this edition contains numerous errors of pagination].

¹⁰⁶ Martínez, *Repertorio de los tiempos*, bk. 3, chap. 23, p. 176: "que las causas universales son variadas y determinadas segun la calidad de la materia, haziendo en diversos sujetos diferentes efectos: el fuego consume leña seca y tambien la verde, mas no tambien y facilmente esta como aquella; muy diferente es la complexion del moreno, y tambien la del indio ala del Español, por lo qual las causas generales que eneste Reyno ocurren, no pueden produzir iguales efectos en todos, sino en cada uno segun su temperamento, disposicion del cerebro y organos corporales y desto procede la diversidad de ingenios que se halla en las referidas naciones."

¹⁰⁷ Martínez, *Repertorio de los tiempos*, bk. 3, chap. 23, p. 177.

¹⁰⁸ Diego de Cisneros, *Sitio, naturaleza y propiedades de la ciudad de México: Aguas y vientos a que esta sujeta, y tiempos del año; Necesidad de su conocimiento para el exercicio de la medicina su incertidumbre y dificultad sin él de la astrología assi para la curación como para los prognósticos* (Mexico City, 1618), chap. 16, fols. 90r-103v.

Martínez had put Mexico City in the wrong location on the map. Moreover, Martínez, who assumed that the ascendant stars of a given location were those that happened to be over the land at the time of creation, had miscalculated the date of creation. Cisneros maintained that it was impossible to determine the date of creation, and therefore it was impossible to find Mexico's ascendant planets.¹⁰⁹ Yet Cisneros, who in America sought to emulate Hippocrates by writing a treatise on which health or disease was explained as the outcome of temperaments and bodily humors controlled by the quality of food, water, locale, and wind patterns, did not disagree with Martínez regarding the radical innate bodily differences of Creoles and Indians. Cisneros rejected Cárdenas's and Martínez's contrived theories that postulated accidental and essential complexions. Cisneros ridiculed Martínez for suggesting that the Indians could be both phlegmatic and sanguine. But Cisneros did not reject the essentializing and reifying distinctions between Indian and Creole bodies that Cárdenas and Martínez had introduced. Like them, Cisneros drew a clear racial line and argued that Indians were melancholy (cold/dry as opposed to the cold/wet temperament of the phlegmatic complexion) and Creoles sanguine.¹¹⁰ Also like Cárdenas and Martínez, Cisneros maintained that climate worked within the limits established by set racial differences and concluded that the climate of America had transformed the choleric Spanish inheritance of the colonists into a sanguine, privileged complexion.¹¹¹

The early seventeenth-century invention of separate bodies for Indians and whites (although blacks were often mentioned, there was no attempt to clarify their essential and accidental complexions) created by three long-term European residents in the Indies was part of a broader cultural movement to respond to Europe's negative views of the climate and heavenly constellations of Spanish America. Europeans, Indians, and blacks were perceived to be essentially different, their "temperaments, the disposition of their brains and body organs" thought to be made of different "matter" and thus expected to react to the same environment differently. The views of Martínez were repeated by Creole patriots during the rest of the seventeenth century. Some ninety years after the publication of Martínez's book, the Franciscan friar Agustín de Vetancurt could still quote Martínez verbatim. In a work published in Mexico in 1696, Vetancurt insisted that Mexico was a microcosm of the world, providentially designed and chosen to nurse the globe with silver and gold rather than milk. Seeking to counter skeptical claims of those who maintained that America could not possibly be such a paradise if inferior Indians and blacks had been born in the land, Vetancurt turned to Martínez and argued that "universal causes are modified according to the quality of the matter [upon which the climate acts]; fire burns both dry and green wood but far faster the

¹⁰⁹ Although Cisneros rejected the possibility of ever finding Mexico's dominant planetary influences, he did think that Mexico was under some kind of astral influences and sought to determine what they were. According to Cisneros, Taurus caused heat, dryness, and encouraged wind formations over Mexico (*Sitio*, chap. 16, fol. 87r-v); and the land was also under the influences of three "vertical" stars (chap. 16, fols. 88v-89v). The debate over the dominant "stars and signs" of Mexico continued throughout the seventeenth century; see, for example, Vetancurt, *Teatro mexicano*, chap. 1, pp. 4-5.

¹¹⁰ Cisneros, *Sitio*, chap. 17, fols. 110, 112v-112v [folio 112 is paginated twice]. Cisneros compares Mexican Indians to the description given by Hippocrates of the inhabitants of the river Phasio: they were tall, fat, yellow, and slothful (110r-111r).

¹¹¹ Cisneros, *Sitio*, chap. 17, fols. 112v-113v.

former than the latter. The complexion of blacks is very different from that of Spaniards, so too is that of Indians. That is the reason why [climate and heavenly constellations] in this land do not produce the same effect in all populations; it varies according to the temperament, disposition of the brain and body organs of each."¹¹²

The invention of two (or three) separate bodies also could have resulted, paradoxically, from the very racial complexity that came to characterize the Spanish-American colonies in the early seventeenth century. What is puzzlingly absent from the racialized view of the body that I have discussed here is any reference to miscegenation, to the working of the bodies of the *castas*. As R. Douglas Cope has shown, it was precisely when the authors I have discussed here were writing that mestizos and mulattoes were becoming the majority of the colonial urban population, far outnumbering Indians and Spaniards. This situation led the elites to introduce a system of racial distinctions, the infamous *casta* system, in the hopes of disciplining and controlling what appeared as a threatening, undifferentiated urban plebs.¹¹³ But for all the fine racial taxonomies to "divide and rule" introduced over time (forty by some counts), the *casta* system never set firm roots, and the *casta* groups that had a lasting meaningful existence were only two, mestizos and mulattoes. Such tendency toward simplification, as Cope has argued, was the result of resistance on the part of the poor urban majorities to racial labeling. But the simplifications might well have originated in the inability of the very ones the system was intended to benefit (Spaniards and Indians) to think beyond sharp racial typologies.

The reaction of Spaniards and Indians alike to the increasing racial complexity of the colonies was to fall back into polarized views of society. Just at the time Martínez argued that there were three separate bodies, Don Domingo de San Antón Muñón Chimalpahin Quauhtlehuanitzin, a Nahuatl annalist and a self-styled member of the indigenous nobility of Chalco, wrote in Mexico City that "at the foundation and beginning of the world we had only one father Adam and one mother Eve, from whom we descended, although our bodies are divided into three kinds."¹¹⁴ Miscegenation paradoxically prompted both the Spanish and Indian elites to simplify and polarize racial divisions within the colonial polity. Such polarized view of bodies and society, as Nils Jacobsen has shown, should perhaps be considered among the most significant of the colonial legacies of modern Latin America, a legacy that, at least in Peru, has been largely responsible for a thwarted and incomplete transition to a capitalist market economy.¹¹⁵

¹¹² Vetancurt, *Teatro mexicano*, tratado primero, chap. 6, p. 12.

¹¹³ R. Douglas Cope, *The Limits of Racial Domination: Plebeian Society in Colonial Mexico City, 1660–1720* (Madison, Wis., 1994).

¹¹⁴ Quoted in James Lockhart, *The Nahuas after the Conquest: A Social and Cultural History of the Indians of Central Mexico, Sixteenth through Eighteenth Centuries* (Stanford, Calif., 1992), 385. In fact, Chimalpahin read Martínez's *Repertorio* and drew heavily from it. It is very likely that Chimalpahin's views on race might have been influenced by Martínez's. On Chimalpahin and Martínez's relationship, see Susan Schroeder, "Looking Back at the Conquest: Nahuatl Perceptions of Early Encounters from the Annals of Chimalpahin," in *Chipping Away on Earth: Studies in Prehispanic and Colonial Mexico in Honor of Arthur J. O. Anderson and Charles E. Dibble*, Eloise Quiñonez Keber, ed. (Lancaster, Calif., 1994), 82, 84. See also 86 on Chimalpahin's negative views of mestizos.

¹¹⁵ Nils Jacobsen, *Mirages of Transition: The Peruvian Altiplano, 1780–1930* (Berkeley, Calif., 1993).

SCHOLARS HAVE ARGUED THAT THE SCIENCE OF RACE originated in “Western” Europe in the mid-eighteenth century among natural historians seeking to devise ever more sweeping taxonomies to encompass the bewildering variety of living things available to them in the aftermath of the age of exploration. Scholars have also argued that the science of race came about in the nineteenth century as a result of major political transformations in the age of revolutions. As old political orders based on social estates, hereditary privileges, and religion came tumbling down and new social formations emerged with foundations built on the principles of citizenship, natural rights, and secular political authority, white European males located in science (of race and sex) the ideological justification to prevent women, slaves, and non-Europeans from sharing in their newly acquired political rights.¹¹⁶

Historians of colonial Latin America in particular have the right to be skeptical of these accounts of the genesis of scientific racism. Sixteenth-century learned Spaniards brought to the New World ideas and theories that at first glance could be interpreted as forms of scientific racism. Spanish humanists and neo-scholastic theologians engaged in drawn-out debates (the focus of sustained scholarly attention today) in which the natives of the New World were portrayed as natural slaves, peoples whose brutal ways and elementary misunderstanding of even the most basic natural laws showed that they lacked reason and political prudence and, therefore, had no right to hold property and rule themselves. This paradigm, which helped justify early Spanish colonial expansion, was soon superseded by a view of the Indian as carrier of a human soul and thus a potential member of a Christian commonwealth. In this new version, however, the Indian was represented as a psychologically arrested child, whose innate natural rights had to be administered by proxy. These views, to be sure, were cast in the idioms of medieval and Renaissance natural philosophy and contributed to create the essentializing and homogenizing category of the “Indian” in European consciousness.¹¹⁷

Yet, for all their similarities with the modern concept of race, the views of the natives as natural slaves or as childish barbarians were not predicated on the study of the Indian body. Spanish colonialist knowledge created categories that classified peoples according to whether they had cities, knew how to build arches, enjoyed hierarchical social arrangements, created systems of writing, practiced the right religion and rituals, knew appropriate dress codes, and understood dietary and

¹¹⁶ Michael Banton, *The Idea of Race* (London, 1977); Stephen Jay Gould, *The Mismeasure of Man* (New York, 1981); George W. Stocking, *Race, Culture, and Evolution*, 1968 edn. with a new preface (Chicago, 1982); Nancy Stepan, *The Idea of Race in Science: Great Britain, 1800–1960* (Hamden, Conn., 1982); Nicholas Hudson, “From ‘Nation’ to ‘Race’: The Origin of Racial Classification in Eighteenth-Century Thought,” *Eighteenth-Century Studies* 29 (1996): 247–64; Ivan Hannaford, *Race: The History of an Idea in the West* (Baltimore, Md., 1996); Dorinda Outram, *The Enlightenment* (Cambridge, 1995), 74–79, 94–95. Alden T. Vaughan has argued that it was only after the mid-eighteenth century that British-American colonists began to identify themselves as whites and Indians as “red,” whereas before Indians were thought to be “white.” Vaughan’s findings, though centered on a colonial setting, reinforce the thesis that the rise of racialist concerns was a late eighteenth-century phenomenon. “From White Man to Redskin: Changing Anglo-American Perceptions of the American Indian,” *AHR* 87 (October 1982): 917–53.

¹¹⁷ Lewis Hanke, *Aristotle and the American Indians: A Study in Race Prejudice in the Modern World* (London, 1959); Pagden, *Fall of Natural Man*; Patricia Seed, “‘Are These Not Also Men?’: The Indians’ Humanity and Capacity for Spanish Civilization,” *Journal of Latin American Studies* 25 (1993): 629–52.

sexual “natural laws.”¹¹⁸ The secular concern of Spanish Christians with keeping their blood pure, uncontaminated by threatening neighboring religions and peoples (Jewish, Muslim, and, later, Protestant and native American), could at times give modern observers the impression that in early modern Spain cultural differences were in fact explained using a language that claimed for nations essential biological differences. The discourse behind “purity of blood” maintained that religious idolatry was a behavior passed down over generations through corrupted blood.¹¹⁹ Thus the refusal of American natives to abandon their ancestral religions was often explained by Spanish writers as a physical trait of the Indian, a “bad seed that has grown deep roots and has turn itself into blood and flesh [in the Indians] . . . a vice that comes in the blood and in suckled as milk [in their mother’s breasts] . . . [because] the customs of parents and ancestors are converted into nature and transmitted through inheritance to their children.”¹²⁰

A closer look of these views, however, shows that the dominant factor used to explain religious deviancy was nurture, not nature. Culture, the customs of parents, literally transformed the body, modifying the blood and flesh of Indians. As Anthony Pagden has argued, it was the assumption that culture could become so ingrained as to become a second human nature that led sixteenth-century Spanish scholars to argue that for the transformation of child-like Indians into full-fledged Christian European adults to succeed, it would take great many generations of hard work by missionaries. Yet Indian conversion and Europeanization was deemed possible.¹²¹

By the early seventeenth century, however, this faith in the transforming (and redeeming) power of evangelization and acculturation gave way to marked skepticism in Creole learned circles. As Sabine MacCormack has suggested, seventeenth-century Creole authors, witnessing the indigenous refusal to give up ancestral religious practices, embraced racist views to explain religious deviance among Andeans. In previous centuries, Christian scholars had maintained that the devil was largely responsible for idolatrous behavior because Satan misled worshipers through the manipulation of peoples’ mental faculties, making them see false phantasms and religious visions (the devil also altered the actual physical environment). Responsibility for religious visions thus lay outside the operation of the body and mind of idolatrous worshipers. To be sure, this paradigm was used extensively in early colonial Spanish America. However, by the seventeenth century, the Creole

¹¹⁸ Pagden, *Fall of Natural Man*, *passim*; Peter Hulme, “Tales of Distinction: European Ethnography and the Caribbean,” in Stuart B. Schwartz, *Implicit Understandings: Observing, Reporting, and Reflecting on the Encounters between Europeans and Other Peoples in the Early Modern Era* (Cambridge, 1994), 157–97.

¹¹⁹ Charles Amiel, “La ‘pureté de sang’ en Espagne,” *Etudes inter-ethniques* 6 (1983): 28–45; Albert Sicroff, *Los estatutos de Limpieza de Sangre: Controversias entre los siglos XV y XVII* (Madrid, 1985); and David Nirenberg, *Communities of Violence: Persecution of Minorities in the Middle Ages* (Princeton, N.J., 1996).

¹²⁰ Alonso de la Peña Montenegro, *Itinerario para párrocos de indios* (Madrid, 1668), bk. 2, treatise 4, sect. 1, pp. 176–77; see also Miguel Cabello Valboa, *Miscelánea antártica: Una historia del Peru antiguo* [ca. 1586], con prólogo, notas e índices del Instituto de Etnología (Lima, 1951), primera parte, chap. 13. Cabello Valboa explained the origins of idolatry as a “contagion” that first affected the imagination of those descendants of Noah negatively influenced by some constellations and that was later transformed into a biological innate inclination (“naturaleza”) (p. 80).

¹²¹ Pagden, *Fall of Natural Man*, 97–104. On culture as a second nature, see also Donald R. Kelley, *The Human Measure: Social Thought in the Western Legal Tradition* (Cambridge, Mass., 1990).

clergy in the viceroyalty of Peru began to blame Indian idolatry on the flawed operation of the Indian body and not on the machinations of the devil. Indigenous religious deviance thus became a psychological problem largely attributable to the physical malfunctioning of the internal senses of Indians, a failure of their brains to grasp the logical, scientific structure of the universe.¹²²

The works of the two seventeenth-century scholars, Salinas y Córdova and León Pinelo, with which I began this article, represented the efforts of the learned in Spanish America to invent two different bodies, one for Indians and the other for white European colonists (and in lesser degree a third one for African blacks). As they sought to defend themselves from a rising European intellectual tide representing the climate and heavenly constellations of Spanish America as the cause of mental and physical degeneration, Salinas and Pinelo, along with a cadre of Creole and émigré European scholars, hammered out forms of patriotic astrology and, more important, a discourse of scientific racism that long predated the one invented in the late eighteenth and early nineteenth centuries in Europe. “Modern” scientific racism, therefore, was first articulated in a “peripheral” colonial setting and worked out using distinctively non-modern idioms. Yet, paradoxically, this very modern creation, it seems, never had much of an impact outside Spanish America. Although the colonies did work in Ann Laura Stoler’s terms “as laboratories of modernity,” the fact that modernity defined itself by dismissing colonial intellectuals and by denying the status of science to astrology, Aristotelian metaphysics, and Galenic physiology doomed the first modern views of the racialized body to become invisible in European consciousness.

¹²² Sabine MacCormack, *Religion in the Andes: Vision and Imagination in Early Colonial Peru* (Princeton, N.J., 1991), 383–405.

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