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2019

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Citation for published version (APA):

Bartelson, J. (2019). *Cosmos and Conquest: Precursors of Iberian Overseas Expansion, c. 1500-1600*. (pp. 1-25). (STANCE Working Paper Series; Vol. 2019, No. 7).

Total number of authors:

1

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State-Making and the Origins of Global Order
in the Long Nineteenth Century and Beyond

Cosmos and Conquest: Precursors of Iberian
Overseas Expansion, *c.* 1500-1600

Jens Bartelson

Working Paper Series, 2019:7
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Cosmos and Conquest:
Precursors of Iberian Overseas
Expansion, *c.* 1500-1600

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Introduction

How did Latin America come to be dominated by two weak polities on the fringe of Europe during the early modern period? As Gabriel Paquette has argued in a recent book, this was less due to any superiority on their behalf or of the wider civilization in which they partook, but rather the result of their employment of systematic violence which was then ‘embedded in the institutions they established overseas’; to the ‘efficacious forms of governance and finance’ which enabled them to ‘project and retain power across vast distances’, and finally, to the collaboration of creole elites to maintain and extend control of conquered territories. Assisted by a mighty army of microbes, the creation of overseas empire was propelled by geopolitical competition between European states, yet also constantly compromised by rivalries among their elites.¹

But first you had to get there. The creation of overseas empires presupposed that there was something out there to conquer in the first place, since expanding into what one believed to be an empty space would have made little or no sense. It further presupposed that there was a way of getting there, getting *over* the seas so that this ‘out there’ quite literally becomes an *overseas*. And for this feat to be possible, the ocean must not be an unsurmountable abyss but had to be perceived as a navigable waterway, possible to master and traverse. Finally, the creation of overseas empires presupposed that there were ways of making sense of the peoples found on these foreign shores if only to obtain the control necessary for their subsequent subjugation. In short, overseas expansion and the creation of empires presupposed the possession of a range of intellectual resources that had not been available to the advocates of empire during antiquity and the middle ages. Crafted out of a myriad of sources – Greek, Roman, Jewish, Christian – these resources proved indispensable not only to discovery and conquest, but also to the justification of these activities to those who for various reasons doubted their viability and legitimacy.

Whilst the necessary intellectual resources might be available to us, there were certainly not so at the onset of overseas expansion.

¹ Gabriel Paquette, *The European Seaborne Empires. From the Thirty Year’s War to the Age of Revolutions*, (New Haven: Yale University Press, 2019), 4.

Contemporary conceptions of empire were fashioned out of the Roman concept of *imperium* which mainly connoted *territorial* rule, however discontinuous those territories and heterogenous their populations, and made no references to the possibility of extending such *imperium* to other continents beyond the Euro-Asian landmass for the simple reason that their existence remained unknown or at least highly uncertain at this point in time.² As Isidore of Seville had established long ago ‘the ocean is impassable to men, and those worlds which are beyond it are also unreachable.’³ Consequently, the early chroniclers of the Spanish crown had little to say about the possibility of overseas expansion but confined their visions of empire within the geographical limits handed down to them by Roman and Christian medieval sources.⁴ This made early modern Iberian empires different from their competitors at the time. The Ottoman and the Mughal empires both were mainly empires of land, and although the Ottomans had tried to control trade in the Indian Ocean, they were soon outcompeted by the Portuguese.⁵

But when Tommaso Campanella published his *Della Monarchia di Spagna* in 1600, the aspiration to universal monarchy had become of a truly planetary scope, stretching far beyond the geographical limits of the Roman and Christian worlds.⁶ At this point, Iberian overseas empires had become premised on the mastery of the transcontinental waterways connecting the different parts of world in ways that transcended the territorial boundaries and geographical

² See Anthony Pagden, *The Burdens of Empire. 1539 to the Present*, (Cambridge: Cambridge University Press, 2015), 2-6; Thomas James Dandeleit, *The Renaissance of Empire in Early Modern Europe*, (Cambridge: Cambridge University Press, 2014).

³ Isidore of Seville, *De Natura Rerum*, [612-615], trans. by Calvin B. Kendall and Faith Wallis, (Liverpool: Liverpool University Press, 2016), 40.III,168.

⁴ See, for example, Antonio de Guevara, *The Diall of Princes. Compiled by the reuerende father in God, Don Anthony of Guevara, Bysshop of Guadix*. [1529] trans. by Thomas North, (London: 1557); Pedro Mexia, *The Imperiall Historie: or the liues of the emperours, from Iulius Cæsar, the first founder of the Roman monarchy*. [1545] (London: Mathevv Lovvnes, 1623).

⁵ See Sanjay Subrahmanyam, ‘A Tale of Three Empires: Mughals, Ottomans, and Habsburgs in a Comparative Context’, *Common Knowledge* 12, no. 1 (2006), 66-92; Jane Burbank and Frederick Cooper, *Empires in World History. Power and the Politics of Difference*, (Princeton: Princeton University Press, 2010), 117-148.

⁶ Tommaso Campanella, *A Discourse Touching the Spanish Monarchy*, (London: Philemon Stephens, 1654). For interpretations, John M. Headley, *Tommaso Campanella and the Transformation of the World*, (Princeton: Princeton University Press, 1997); Anthony Pagden, ‘Instruments of Empire: Tommaso Campanella and the Universal Monarchy of Spain’, in Anthony Pagden, *Spanish Imperialism and the Political Imagination*, (New Haven: Yale University Press, 1990), 37-64.

limits of the ancient world.⁷ As the Spanish humanist Juan Vives noted in 1531, '[t]he whole globe is opened up to the human race, so that no one is so ignorant of events as to think that the wanderings of the ancients...are to be compared with the journeys of these travellers.'⁸ Hence the notion of an *orbis terrarum* had been abandoned in practice already before it was formally refuted by Copernicus in 1534, the impetus coming from the cartographical advances following the rediscovery Ptolemy's *Geography* in the late fifteenth century.⁹

These cartographical advances were to a large extent motivated by the relentless search for safer and cheaper trade routes to the East Indies.¹⁰ At the same moment as the Lopo Gonçaves first crossed the equator in 1473, Paolo dal Pozzo Toscanelli had written a letter to Fernão Martins, canon of the Lisbon cathedral, on the subject of possible circumnavigation: 'You must not be surprised...if I call the parts where the spices are west, when they usually call them east, because to those sailing west, those parts are found by navigation on the underside of the earth. But if by land on the upper side, they will always be found to the east.'¹¹ Written in order to be comprehensible to the intended lay audience, the simplicity of these instructions contrasts nicely with the complexity of the task at hand. This task consisted of convincing the Portuguese elite of the validity of a new worldview which was at odds with the educated lore of the day and prompting members of this elite to act urgently upon this new knowledge. But when both Martins and king Alfonso V failed to

⁷ For this contrast, see David Armitage, 'The Elephant and the Whale: Empires of land and sea.' *Journal for Maritime Research* 9, no. 1 (2007): 23-36; Charles S. Maier, *Once Within Borders: Territories of Power, Wealth and Belonging since 1500* (Cambridge, MA.: Harvard University Press, 2016).

⁸ Juan Vives, *On Education*, [1531] trans. by Foster Watson, (Cambridge: Cambridge University Press, 1913), 3

⁹ See Christian Jacob, *The Sovereign Map. Theoretical Approaches in Cartography Throughout History*, (Chicago: University of Chicago Press, 2006), 61-64.

¹⁰ See Denis Cosgrove, 'Mapping New Worlds: Culture and Cartography in Sixteenth-Century Venice', *Imago Mundi* 44, 1992: 65-89; Samuel Y. Edgerton, *The Renaissance Discovery of Linear Perspective*, (New York: Basic Books, 1975); Thomas Goldstein, 'The Role of the Italian Merchant Class in Renaissance and Discoveries', *Terrae Incognitae* 8, 1976: 19-27.

¹¹ *Letter*, June 24, 1474. Thomas Goldstein, 'Geography in Fifteenth-Century Florence', in John Parker ed., *Merchants and Scholars. Essays in the History of Exploration and Trade*, (Minneapolis: The University of Minnesota Press, 1965), 11-32, at 13-14.

respond, a copy of the same letter was sent to a more entrepreneurial spirit in Genoa who was to obtain funding from the Spanish crown.¹²

Some authors have emphasized the extent to which Iberian overseas expansion depended on new scientific and technological innovations. Without the innovations such as the caravel and the quadrant, the discoveries and conquests would not have been possible.¹³ But although these innovations greatly facilitated overseas expansion by bringing improved methods of navigation and warfare, the underlying worldview was all but scientific by any modern standards, lest the quest for overseas empire would have been very difficult to legitimize in contemporary terms. It therefore seems reasonable to argue that many of the categories and concepts associated with the rise of modern science owe more to projects of overseas expansion than the other way around.¹⁴

Yet this raises the question of how the cosmological beliefs underwriting overseas expansion were used to justify such pursuits to contemporary Iberian elites. This is the topic of the present chapter. In the next section, I shall try to reconstruct those parts of this worldview that made overseas expansion look viable and legitimate. As I shall suggest, this worldview was still based on medieval and renaissance modes of knowledge rather than on any recognizably modern idea of science. In the second section, I shall describe how the same set of beliefs was used to make sense of the New World and its inhabitants and how the resulting knowledge was used to facilitate and legitimize their subjection to imperial rule.

Taming space

According to some historians, Iberian overseas expansion came with strong claims to novelty. Iberian scholars believed that they were

¹² A copy of this letter was sent by Toscanelli to the young Cristobal Colón. See Norbert Sumien, *La Correspondence du Savant Florentin Paolo del Pozzo Toscanelli avec Christophe Colomb*, (Paris: Société d'éditions géographiques, maritimes et coloniales, 1927), 9ff.

¹³ See, for example, John Law, 'On the Social Explanation of Technical Change: The case of the Portuguese maritime expansion', *Technology and Culture* 28, no. 2 (1987): 227-252; Tessaleno Devezas and George Modelski, 'The Portuguese as System-Builders in the Fifteenth and Sixteenth centuries: A case study on the role of technology in the evolution of the world system', *Globalizations* 3, no. 4 (2006): 507-523.

¹⁴ See, for example, Jorge Cañizares-Esguerra, *Nature, Empire, and Nation: Explorations of the history of science in the Iberian world*. (Stanford: Stanford University Press, 2006).

superseding the wisdom of the ancients and paving the way for a comprehensive revision of received views of both man and nature.¹⁵ Such claims to novelty abounded already in the aftermath of the discoveries and were closely associated with quests for universal empire. As Bodin argued in his *Methodus* (1566), whereas the ancients had lived within the confines of the Mediterranean basin, his contemporaries ‘traverse the whole earth every year in frequent voyages and lead colonies into another world...[n]ot only has this discovery developed an abundant and profitable commerce...but also all men surprisingly work together in a world state, as if in one of the same city-state.’¹⁶ Similarly, both Abbé de Raynal and Adam Smith took the discoveries of the New World to mark the birth of the modern world. To Raynal, discovery and circumnavigation ‘gave rise to a revolution in the commerce, and in the power of nations, as well as in the manners, industry, and government of the whole world.’¹⁷ Similarly, to Smith, the ‘discovery of America, and that of a passage to the East Indies by the Cape of Good Hope, are the two greatest and most important events recorded in the history of mankind’ insofar as they inaugurated a new age of profitable trade and colonial exchange.¹⁸

In retrospect these claims to novelty appear anachronistic and overstated to bolster national pride.¹⁹ For example, the heliocentric theory presented by Copernicus in *De revolutionibus* (1543) did not find any immediate resonance among Iberian scholars since its consistent uptake would have entailed a rejection of the predominant geocentric worldview and thus put them at odds with ecclesiastical authorities.²⁰ But still the Ptolemaic theory appeared insufficient for

¹⁵ See, for example, Juan Pimentel, ‘The Iberian Vision: Science and Empire in the Framework of a Universal Monarchy, 1500-1800’, *Osiris* 15 (2000): 17-30; Jorge Cañizares-Esguerra, ‘Iberian Science in the Renaissance: Ignored how much longer?’, *Perspectives on Science* 12,

¹⁶ Jean Bodin, *Method for the Easy Comprehension of History*, trans. by Beatrice Reynolds, (New York: Columbia University Press, 1945), 301.

¹⁷ Abbé Guillaume-Thomas-François Raynal, *A Philosophical and Political History of the Settlements and Trade of the Europeans in the East and West Indies*, trans. by J. O. Justamond, (London: W. Strahan and T. Cadell, 1783), I.I.1.

¹⁸ Adam Smith, *The Wealth of Nations*, Vol. II, [1776-1778], (London: J.M. Dent & Sons, 1910), IV.VII,121.

¹⁹ See, for example, William Graham Lister Randles, ‘The Alleged Nautical School founded in the Fifteenth Century at Sagres by Prince Henry of Portugal, called the ‘Navigator’’, *Imago Mundi* 45, no. 1 (1993): 20-28.

²⁰ See Victor Navarro Brotóns, ‘The Reception of Copernicus in Sixteenth-century Spain: the case of Diego de Zúñiga’, *Isis* 86, no. 1 (1995): 52-78; Víctor Navarro Brotóns, ‘Continuity and Change in Cosmological Ideas in Spain Between the Sixteenth and Seventeenth Centuries: The Impact of Celestial Novelties’, in

the task at hand, since it said nothing about stars visible in the Southern hemisphere. As the Portuguese approached the equator on their explorations of the West African coast, the Pole Star could no longer serve as a reliable guide as it sank to the horizon only to eventually disappear from sight.²¹ This required new astronomical knowledge and the use of instruments such as the astrolabe for measuring the altitude of the sun in order to find the latitude of any given location. And as soon as mariners ventured outside the Mediterranean basin, medieval portolan charts became useless for navigation, prompting the Royal Cosmographer Pedro Nunes to write an elaborate defense of the plane chart (*carta de marear*) with its equidistant and parallel meridians as the only useful instrument of navigation for long distance transoceanic voyages.²²

Measuring latitude by means of an astrolabe in turn required the use of solar tables such those found in the *Hajibur Hagadol* by the Jewish astrologer Abraham Zacuto. These tables were translated into Portuguese by José Vizinho and published under the title *Almanach Perpetuum* (1496) and were used by Vasco da Gama on his first voyage to India in 1497 and by Pedro Álvares Cabral on the expedition that unintentionally landed him on the coast of Brazil in April 1500. Roughly contemporary -- but not necessarily reliable -- sources suggest that Zacuto was present to bid the former farewell on the beach of Restelo.²³ Coupled with practical advice on how to determine the height of the sun, his solar tables were then used to compile influential manuals of navigation such as the *Regimento de Munique* (1509), the *Regimento do Astrolábio e do Quadrante* (1509) and the *Regimento de Évora* (1516), thereby effecting a transfer of practical

Patrick J. Boner (ed.), *Change and Continuity in Early Modern Cosmology*, (Springer, Dordrecht, 2011), 33-50.

²¹ William Graham Lister Randles, 'The Emergence of Nautical Astronomy in Portugal in the XVth century', *The Journal of Navigation* 51, no. 1 (1998), 46-57.

²² Pedro Nunes, *Obras I*, 175ff. For analyses, see William Graham Lister Randles, 'From the Mediterranean Portulan Chart to the Marine World Chart of the Great Discoveries: The crisis in cartography in the sixteenth century', *Imago Mundi* 40 (1988): 115-118; Joaquim Alves Gaspar, 'From the Portolan Chart to the Latitude Chart', *Cartes et Géomatique, Comité Français de Cartographie* 216 (2013), 67-77.

²³ Gaspar Correa, *Lendas da Índia*, I, [c. 1550], (Lisboa: Academia Real das Ciências de Lisboa, 1858), 23. The extent of Zacuto's influence has been disputed, see Sanjay Subrahmanyam, *The Career and Legend of Vasco da Gama*, (Cambridge: Cambridge University Press, 1998), 62; Siebren van der Werf, 'Nautical Tables for Vasco da Gama, 1497-1500?', *Journal for the History of Astronomy* 50, no. 3 (2019): 326-338; Bernard Goldstein, 'Astronomy as a 'Neutral Zone': Interreligious Cooperation in Medieval Spain.' *Medieval Encounters* 15, no. 2-4 (2009): 159-174.

knowledge from astronomers to mariners.²⁴ But the astrolabe, the lodestar, the quadrant, and the compass were not mere tools of navigation, but were also widely understood as instruments of imperial expansion in their own right. As Pedro Nunes maintained in 1537, the expansion of the Portuguese was made possible by the fact that ‘our seamen are well trained and equipped with instruments and rules of astronomy and geometry’.²⁵ And as Camões had Vasco de Gama to say in *Os Lusíadas*, the discoveries of new lands were made possible by that ‘new and ingenious instrument the astrolabe.’²⁶ This confluence of intellectual and political concerns generated new ways of producing and organizing knowledge, centered on the heroic figure of the knight as cosmographer and his gathering of knowledge as a fresh way of extolling chivalric virtues.²⁷

These advances in navigation notwithstanding, transoceanic voyages had to be justified against the backdrop of still widely held beliefs according to which there were no ship routes or continents beyond the confines of the *orbis terrarum*. Moreover, overseas expansion had also to be justified against the backdrop of emergent patriotic sentiments according to which the ancient lands of Lusitania and bonds of kinship ought to constitute the prime object of political allegiance. Hence, even in the most famous instance of celebration, a voice of skepticism was inserted if perhaps only for edifying purposes. Thus, at the very moment Vasco da Gama was about to depart for India, Camões had an old man complaining: ‘Oh, the folly of it, this craving for power, this thirsting after the vanity we call fame, this fraudulent pleasure known as honour that thrives on popular esteem...[y]ou allow the enemy to flourish at your gates while you go seek another at the other side of the world, at the price of depopulating and weakening this ancient kingdom and squandering

²⁴ See Walmir Thomazi Cardoso and Roberto de Andrade Martins, ‘Iberian Approaches to Astronomy in the Sixteenth Century’, *Mediterranean Archaeology and Archaeometry* 18, no. 4 (2018), 265-271; Avelino Teixeira da Mota, ‘The Nautical Aspects of Astronomical Theories and Observations in Europe down to 1675’, *Vistas in Astronomy* 20 (1976): 29-37; Randles, ‘The Emergence of Nautical Astronomy’, *passim*.

²⁵ Pedro Nunes, *Obras* I, (Lisboa: Academia das Ciências e Fundação Calouste Gulbenkian, 2002), 121. Quoted in Henrique Leitão, ‘Instruments and Artisanal Practices in Long Distance Oceanic Voyages’, *Centaurus* 60, (2018): 189-202, at 197.

²⁶ Luis Vaz de Camões, *The Lusíadas*, [1572] trans. by William C. Atkinson, (Harmondsworth: Penguin, 1952), Canto V, 126. For an interpretation, see Bernhard Klein, ‘Mapping the Waters: Sea charts, navigation, and Camões’s *Os Lusíadas*’, *Renaissance Studies* 25, no. 2 (2011): 228-247.

²⁷ Esguerra, *Nature, Empire, and Nation*, 7-14.

its resources.²⁸ Camões could provisionally resolve this tension by drawing on an epic tradition which at least since Virgil had connected patriotic virtue with imperial expansion, but the sheer appearance of the Old Man of Restelo indicates that overseas expansion was still controversial.²⁹

Since overseas expansion was by no means an unproblematic undertaking, this leaves us with the difficulty of explaining how it was made intelligible and justifiable to all those courtiers, noblemen, clergymen, and scholars who were to become stakeholders and beneficiaries in this long and arduous process. Although overseas expansion presupposed an understanding of the world as one single space open to mastery and domination, this particular imperial imaginary could not be easily assembled out of the conceptual resources available to the erudite parts of the Iberian elite, since recent advances in astronomy were not widely disseminated at the onset of the discoveries and revived Roman visions of empire remained silent about the possibility of overseas expansion.³⁰

But knowledge of celestial bodies was not only necessary to determine location at sea, but these bodies were also invested with profound symbolical significance in an age when astrology and astronomy were still inseparable intellectual enterprises. As Esguerra has argued, '[a]strology was part of the obvious mental landscape of every learned individual in the early modern world, regardless of religion and 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.'³¹

²⁸ Camões, *The Lusiads*, Canto IV, 119-121. For an analysis of the imperial rhetoric of *Os Lusíadas*, see David Quint, *Epic and Empire: politics and generic form from Virgil to Milton*, (Princeton: Princeton University Press, 1993). For different interpretations of Canto IV, see Gerald M. Moser, 'What did the Old Man of the Restelo mean?', *Luso-Brazilian Review* 17, no. 2 (1980): 139-151.

²⁹ See Matthew M. Gorey, 'Pietas and the 'Other Camões'—subversive translation and allusion in The Lusiads', *Classical Receptions Journal* 11, no. 2 (2019): 211-229.

³⁰ On globality as a precursor to expansion, see Jens Bartelson, 'The Social Construction of Globality', *International Political Sociology* 4, no. 3 (2010): 219-235; David Inglis, 'Mapping Global Consciousness: Portuguese imperialism and the forging of modern global sensibilities', *Globalizations* 8, no. 5 (2012): 687-702.

³¹ Jorge Cañizares Esguerra, 'New World, New Stars: Patriotic astrology and the invention of Indian and Creole bodies in colonial Spanish America, 1600–1650', *The American Historical Review* 104, no.1 (1999): 33-68, at 37. For a background, see William R. Newman and Anthony Grafton, 'Introduction: The Problematic Status of Astrology and Alchemy in Premodern Europe', in Anthony Grafton and William R. Newman (eds.), *Secrets of Nature: Astrology and alchemy in early modern Europe*. (Cambridge, MA: MIT Press, 2001), 1-38.

According to the ancient tradition, the stars affected the composition of objects in the sublunary sphere through the four elements of earth, fire, air, and water, and human temperament through the balance of the bodily fluids blood, yellow bile, black bile, and phlegm. Coupled with Ptolemy's division of the known world into three distinct regions, the stars were also believed to determine the climate and characteristics of each such region. Celestial influences thereby covered the course of natural and human history, so that '[a]ll occurrences from the flora of a district to the history of its inhabitants must be determined by the virtue of the presiding stars, and explained with reference to their influence.'³² This confluence of natural and human history even made it possible for Bodin to take a shot at the Copernican theory, 's]ince neither the motion of eccentric circles nor of the sun is in any way significant in the changes of empire...we shall have to judge that it pertains to those well-known conjunctions of the stars.'³³

Making the benefits of overseas expansion intelligible to lay audiences had to proceed from such established beliefs, giving rise to a literary genre that connected concerns of cosmography and navigation with more mundane pursuits. Books in this genre all bear more or less the same title, being variations of *Reportorio de los tiempos* and *Reportorio dos tempos* in Spanish and Portuguese respectively.³⁴ Intended for a broad audience, these books struggled to mediate between the geocentric worldview still sanctioned by ecclesiastical authorities and the emergent Copernican heliocentric one. A good example in this regard is *Reportorio dos tempos, o mais copioso que até agora sahio a luz* (1585) by André do Avelar. Inspired by *Chronographia o reportorio de los tiempos* (1550) by the his more famous Spanish colleague Jeronimó de Chaves, Avelar's work reflects some fascinating commonalities of this genre.³⁵ Among these was the consistent effort to turn temporal differences into spatial ones.

³² Marian J. Tooley, 'Bodin and the Mediaeval Theory of Climate', *Speculum* 28, no. 1 (1953): 64-83, at 67.

³³ Bodin, *Method for the Easy Comprehension of History*, 234.

³⁴ Cardoso and Martins, 'Iberian Approaches to Astronomy in the Sixteenth Century', 269.

³⁵ For the relationship between these works, see da Adalgisa Botelho Costa, 'O Reportorio dos Tempos de André do Avelar e A Astrologia em Portugal no Século XVI', in Roberto de Andrade Martins, Liliana Al-Chueyr Pereira Martins, Cibelle Celestino Silva and Juliana Mesquita Hidalgo Ferreira (eds.), *Filosofia e Historia Da Ciência No Cone Sul: 3 Encontro*, (Campinas: Associação de Filosofia e Historia Da Ciência No Cone Sul, 2008), 1-7.

Starting out from Augustine's tripartite classification of time into *aeternitas*, *aveum*, and *tempus*, Avelar begins by telling us that eternity is 'a space that lacks principle, is without end, without cause and succession which is always present and enjoys permanence.'³⁶ Having established that the lesser substrata of time are defined by their duration, Avelar goes on to compartmentalize temporality into days and nights and fractions thereof. While doing this, however, he makes a significant departure from Augustine insofar as he does not conceptualize *tempus* in terms of the experiences and expectations of the human mind, but with an unmistakable Aristotelian reference to the movement of heavenly bodies and their influence on happens on earth. Planetary movements do not only determine the duration of days and nights, but also the proportion of bodily fluids and the corresponding tempers, so that while certain hours are likely to provoke melancholia, others may incite choleric or phlegmatic tempers, still others sanguine depending on location.³⁷

Having established an intricate series of correspondences between temporal categories through the movements of heavenly bodies, the change of seasons, the cycle of weeks and months, the chronologies of human age, the phases of world history, and the succession of kings and monarchies, Avelar proceeds to describe the geographical features of the known world. Since the discovery of the New World had prompted a revision of the worldview of the ancients, Avelar is led to posit that land and water together now together form one globe situated in the center of the universe, subdivided into regions with distinct climates affecting all forms of life there: the terraqueous globe of Copernicus is inserted into the center of what remained an essentially Ptolemaic universe.³⁸ Consequently the ocean is no longer an impassable chasm, but a medium of connectivity whose usefulness to human beings hinges on their skill in harnessing the right winds and knowledge of planetary influences.³⁹ Since navigating the oceans makes it necessary to know the position of the stars, Avelar offered advice how to locate the Pole Star and the Southern Cross with reference to the signs of the zodiac.

³⁶ André do Avelar, *Reportorio dos Tempos, o mais copioso que até agora sahio a luz*, (Lisboa: Simão & Lopez, 1594), 1. Compare Augustine, *Confessions*, Book XI, Chapters 13-16.

³⁷ Avelar, *Reportorio dos Tempos*, 5-6. See appendix.

³⁸ Avelar, *Reportorio dos Tempos*, 50-52.

³⁹ Avelar, *Reportorio dos Tempos*, 58-70.

Not unlike his contemporary Giordano Bruno, Avelar fits the commonplaces of early modern astronomy into the hermetic and cabalistic tradition wherein they are vested with esoteric meaning.⁴⁰ For this and other reasons, his *Reportorio* was placed on the index in 1623 on account of heresy.

This chain of resemblances allowed Avelar to predict the occurrences of different phenomena with reference to the signs of nature. The strange and irregular behavior of cows, goats, chicken, and bees foretells imminent changes of weather, and the more dramatic these irregularities, the more the dramatic the ensuing change. Outright weirdness is therefore to be expected from all farm animals ahead of tempests and earthquakes, as much as a sure sign of a coming plague is a sudden abundance of reptiles.⁴¹ Comets are harbingers of bad news in general, since they will corrupt the fruits of the earth, bring sterility to beasts, and fire and violent outbursts to humankind.⁴² But knowledge of the heavenly bodies also made it possible to know when it is best to plant wheat and wine, how to cope with the unpleasant fallout of canicular days, and when to phlebotomize or otherwise purge your body of undesirable fluids depending on where you happened to be.⁴³

This permitted Avelar to make sense of a wide range of phenomena with reference to the same body of astrological knowledge. If you suffer bouts of melancholia in the dry winter mornings of Coimbra, if you are overwhelmed with idleness in the stewing summer days of Seville, if your sheep are displaying signs of apprehension on a windy day in spring, or if your orange tree yields less fruit than the autumn before, all of this can be properly understood only if we take the heavenly bodies into consideration. Avelar renders all these phenomena intelligible and subject to the illusion of partial control by making the likelihood of their occurrence entirely relative to position in time and place. But by doing this, he assumes that temporal differences can be seamlessly translated into spatial differences across the entire terraqueous globe, so that the knowledge needed in order to harvest olives at the right time is basically the same as the knowledge needed to set sail

⁴⁰ See Frances A. Yates, *Giordano Bruno and the Hermetic Tradition*, (London: Routledge & Kegan Paul, 1964).

⁴¹ Avelar, *Reportorio dos Tempos*, 110-135.

⁴² Avelar, *Reportorio dos Tempos*, 139-140.

⁴³ Avelar, *Reportorio dos Tempos*, 144-155; 168-181.

for Salvador in the hope for a safe return with bountiful cargo to Lagos. Through an admittedly shaky employment of *modus ponens*, overseas expansion becomes hard to refuse for anyone excited by the promises of natural exuberance or invested in the smooth running of everyday agrarian life. But what happened when this kind knowledge was superimposed on the New World and the peoples found there?

Taming Indians

On February 29, 1504, Christopher Columbus had been stranded on Jamaica for six months. Although the natives had been initially forthcoming and provided Columbus and his crew with food and fresh water, as months passed they grew increasingly impatient with the newcomers to the point of halting the supplies. Columbus then summoned the local *Caciques* and let his interpreter tell them in no uncertain terms that the Christian God was very displeased with their conduct and that as a punishment the moon would rise that night ‘inflamed with wrath’. And as the moon rose the following evening, ‘with great howling and lamentation they came running from every direction to the ships, laden with provisions, praying the Admiral to intercede by all means with God on their behalf; that he might not visit his wrath upon them.’⁴⁴ In order to be able to perform this remarkable act of dissimulation Columbus had again consulted the solar tables by Zacuto to find a lunar eclipse to be imminent, which luckily could be weaponized in order to tame the natives. Although the veracity of this account is dubious – an ageing Fernando Colon had obvious an interest in rehabilitating the by now slightly tarnished reputation of his father – it nevertheless indicates the extent to which contemporaries believed that knowledge of what transpired in the heavens could be turned into power over other human beings on earth.

⁴⁴ Fernando Cólón, *Historie del S.D. Fernando Colombo: nelle quali s'ha particolare, & vera relatione della vita, & de' fatti dell'Ammiraglio D. Christoforo Colombo, suo padre: et dello scoprimento, ch'egli fece dell'Indie Occidentali, dette Mondo Nuovo, hora possedute dal Sereniss*, (Venezia: Appresso Francesco de' Franceschi Sanese, 1571), 237-238. Translation from *The Life of the Admiral Christopher Columbus by his Son Ferdinand*, trans. by Benjamin Keen, (New Brunswick, N.J.: Rutgers University Press, 1959), 272.

As several authors already have shown, the projection of power onto new transoceanic spaces effectively turned these into distinct places while constituting the different peoples found there into Others, vastly different from the Europeans.⁴⁵ Yet for all their obvious merits, these works have not had much to say about how contemporary cosmological beliefs conditioned efforts to make sense of the customs and habits of the American Indians. Thus, in what follows, I shall describe how the mode of astrological reasoning popularized by books in the *Reportorio* genre also informed early accounts of the American Indians, and how these yielded strategies of rule characteristic of early Iberian empires. Here Portuguese sources remain silent for the simple reason that the Portuguese did not expand territorial control much beyond their *fatorias* during the early phases of empire. As the first historian of Brazil described the scope of their activities, they were ‘content to go grazing along the sea like crabs.’⁴⁶

Other European sources offer rich testimonies of the difficulties encountered when trying to make sense of the customs and habits of the Indians. Chroniclers came there equipped with a rich understanding of how the celestial bodies affected the climate of different places, why human beings and their societies displayed distinctive features in different climate zones, and how these best should be governed given the peculiarities of their natural circumstance. As Amerigo Vespucci described his voyage to Brazil in 1498, having lost sight of *Ursa Minor* and *Ursa Major*, ‘[w]e guided ourselves by the stars of the South Pole, which are numerous and much larger and brighter than those of our Pole.’⁴⁷ These new astrological circumstances accounted for the many strange things found in this habitat, as well as for the horrid practices of its inhabitants. As he informed Lorenzo de Medici in a letter, ‘I have

⁴⁵ Although Pagden recognizes that the methods of classifying men made reference to ‘geographical location and astrological disposition’ he does not pursue this particular line of argument. See Anthony Pagden, *The Fall of Natural Man: the American Indian and the origins of comparative ethnology*. (Cambridge: Cambridge University Press, 1982), 13. Also Tzvetan Todorov, *The Conquest of America: The question of the other*. (New York: Harper & Row, 1984); Anthony Grafton, Nancy G. Siraisi, and April Shelford, *New Worlds, Ancient Texts: The power of tradition and the shock of discovery*, (Cambridge, MA.: Harvard University Press, 1992); Philip E. Steinberg, *The Social Construction of the Ocean*. (Cambridge: Cambridge University Press, 2001).

⁴⁶ Frei Vicente do Salvador, *História do Brasil*, [1627] (Rio de Janeiro: Leuzinger & Filhos, 1889), 8.

⁴⁷ Clements A. Markham (ed.), *The Letters of Amerigo Vespucci and Other Documents Illustrative of his Career*, (London: The Hakluyt Society, 1894), 39.

known the nature of those people, their customs, the resources and fertility of the land, the salubrity of the air, the positions of the celestial bodies in the heavens, and, above all, the fixed stars, over an eighth of the sphere, never seen by our ancestors.’⁴⁸ As he continues, ‘[t]he air in this country is temperate and good, as we were able to learn from their accounts that there are never any pestilences or epidemics caused by bad air.’⁴⁹ And although the Indians lived in what appeared to be a state of natural innocence devoid of private property, rulership, and commerce, they were essentially wild, inclined to outbursts of disorderly warfare in ‘which they mutually kill with great cruelty. They slaughter those who are captured, and the victors eat the vanquished; for human flesh is an ordinary article of food among them.’⁵⁰

That the marvels of the New World were determined by the position of celestial bodies was equally obvious to the alchemist Richard Eden, who had translated Peter Martyr’s *De orbe novo decades* (1511) into English. A cannibal kitchen on Guadeloupe could be a veritable shop of horrors, since as Martyr reported to Cardinal Sforza, ‘[t]hey founde likewise the heade of a yonge man fastened to a poste yet bledinge.’⁵¹ After a short but intense battle, and when some of the cannibals had been brought into ‘the Admirals shippe, they dyd no more put of their fiernes and cruell countenances, then do the Lyons of *Libia*... There is no man able to behowdle them, but he shall feele his bowelles grate with a certain horroure, nature hath endewed them with so terrible menacynge, and cruell aspecte.’⁵² The appearance of naked innocence among the inhabitants of Hispaniola notwithstanding, ‘these naked people also are tormented with ambition for the desyre they haue to enlarge their dominions; by reason whereof they kepe warre and destroy one an other.’⁵³ Many of the first chronicles emphasized the wild and beastly character of the Indians but suggested few remedies beyond the use of brute force to subdue them.

⁴⁸ Markham, *Letters of Amerigo Vespucci*, 45.

⁴⁹ Markham, *Letters of Amerigo Vespucci*, 47.

⁵⁰ Markham, *Letters of Amerigo Vespucci*, 47.

⁵¹ Peter Martyr, *Second Booke of the Fyrste Decade*, in Richard Eden, *The First Three English Books on America*, [1555], (Birmingham: Montague Road, 1885), 69.

⁵² Martyr, *Second Booke of the Fyrste Decade*, 70

⁵³ Martyr, *Second Booke of the Fyrste Decade*, 71.

Later chroniclers such as Gonzalo de Oviedo and José de Acosta were puzzled by the fact that Latin America, despite being located in the Torrid Zone, displayed a temperate climate and was more humid than could be expected. Since an excess of water was associated with phlegmatic tempers and an effeminate character, it was a short step to argue that the humidity of Spanish America made both animals and people generally weak and morally defective. As Oviedo maintained, not only were the ‘tigers’ of the New World unusually timid and cowardly, but the Indians were also by nature ‘idle and vicious, poor laborers, melancholic, cowardly, vile, ill-inclined liars with faint memory and no constancy.’⁵⁴ This harsh diagnosis had in a sense been written into the stars. Already the Laws of Burgos of 1512, composed when knowledge of the Indians still was scant, made ample references to their idleness and other vices. As the preamble reads, ‘it has become evident through long experience that nothing has sufficed to bring the said chiefs and Indians to a knowledge of our Faith...since by nature they are inclined to idleness and vice.’⁵⁵ The solution was to establish the *encomienda* system, which granted a *conquistador* the right to extract labor and tributes from the natives of a specific community provided that they were given due instruction in the Christian faith as well as protection from their enemies, a system whose inherent cruelty prompted Bartolomé de las Casas to devote a diatribe to its condemnation, which led Charles V to assemble a *Junta* to assess the validity of his claims.⁵⁶

Aristotle had provided the seed values of this kind of analysis when he argued in *Politics* that ‘[t]hose who live in a cold climate...are full of spirit but wanting in intelligence and skill; and therefore keep their freedom, but have no political organization, and are incapable of ruling over others. But whereas the natives of Asia are intelligent and inventive, but they are wanting in spirit, and

⁵⁴ Gonzalo Fernandez de Oviedo y Valdes, *Sumario de la Natural Historia de Las Indias* [1526] (Mexico City & Buenos Aires: Fondo de Cultura Economico, 1950), 144; Gonzalo Fernandez de Oviedo y Valdes, *Historia General y Natural de Las Indias*, [1535] (Madrid: Imprenta de la Real Academia de la Historia, 1851), Vol. I, II.VI,74.

⁵⁵ *The Laws of Burgos of 1512-1513. Royal ordinances for the good government and treatment of the Indians*, trans. by Lesley Byrd Simpson, (San Francisco: J. Howell Books, 1960), 11.

⁵⁶ See Lesley Byrd Simpson, *The Encomienda in New Spain: the beginning of Spanish Mexico*, (Berkeley: University of California Press, 1982); Bartolomé de las Casas, *Brevisima Relación de la Destrucción de las Indias*, [1542], (Medellin: Imprenta Universidad de Antioquia, 2011). This issued in the Valladolid Debate (1550-1551), see Pagden, *Fall of Natural Man*, 109-145.

therefore they are always in a state of subjection and slavery.’⁵⁷ During the early stages of overseas expansion, observations like these had since long been an integral part of an erudite tradition, and eventually found their most coherent expression in Bodin’s *Methodus ad facilem historiarum cognitionem* (1566) and *Les Six livres de la République* (1576).⁵⁸ As Bodin put it in the *Six Livres*, ‘[f]or even as we see a great variety in all sorts of beasts, and in every kind some notable alterations for the diversity of regions; in like sort we may say, there is in a manner as great difference in the nature and disposition of men, as there is of countries.’⁵⁹ Of the peoples of the South we learn that they are ‘cruell and reuengefull, by reason of melancholie, which doth inflame the passions of the soule with an exceeding violence, the which is not easily suppressed.’⁶⁰ This being so since ‘the Southerners abound in bile, which subsides like lees to the bottom when the humours have been drawn out by the heat of the sun.’⁶¹ A striking example is provided by the Brazilian indians, who ‘are not contented to eat the flesh of their enemies, but will bathe the children in their blood.’⁶² Hence it would be a grave mistake to apply the laws and forms of government suitable to the Northern or the Middle regions to the peoples of the South, because ‘[i]t is no meruaile then if the people of the South be better governed by religion, than by force or reason, the which is a point verie considerable to draw the people, when as neither force nor reason can preuaile.’⁶³ While there was ample room for disagreement as to whether the climate of the New World was predominantly moist or torrid, and whether its inhabitants were of predominantly idle or wild, there was a broad agreement to the effect that instruction in the Christian faith served the dual purpose of conversion and control.

The corrupting influences of the Southern stars continued to generate commentaries for the rest of this century well into the next. For example, in his *Historia natural y moral de las Indias* (1589), José

⁵⁷ Aristotle, *Politics*, VII.vii. (Jowett translation).

⁵⁸ For an analysis, 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: University of California Press, 1967), 434-447; Tooley, ‘Bodin and the Mediaeval Theory of Climate’, *passim*.

⁵⁹ Jean Bodin, *Six Bookes of a Commonweale*, edited by Richard Knolles, (London: Impensis G. Bishop, 1606), V.I, 545.

⁶⁰ Bodin, *Six Bookes of a Commonweale*, V.I, 555.

⁶¹ Bodin, *Method for the Easy Comprehension of History*, 102.

⁶² Bodin, *Six Bookes of a Commonweale*, V.I, 555.

⁶³ Bodin, *Six Bookes of a Commonweale*, V.I, 560.

de Acosta complained that his contemporaries had been wrong about the brightness of the southern stars and the climate of the New World. The stars were dimmer and the climate more temperate, and from this followed a different analysis of its inhabitants and their moral character. Although the Indians were not without religion, they had been tricked by the devil into idolatry and superstition.⁶⁴ But since they did not lack judgment and understanding, they had not established barbarous or tyrannical governments among themselves but been mostly content to live in small communities devoid of sovereign authority.⁶⁵ But being stuck in such a condition of childish ignorance also meant that the Indians were fair game for conversion, since ‘on their part there was much malice against God and our men, which forced them to vse rigor and chastisement... yet God of his bountie hath drawne good from this evill, and hath made the subiection of the Indians, a perfect remedie for their salvation.’⁶⁶

By the end of the sixteenth century such views of the Indians had found their way into popular works of comparative ethnology and politics. In the widely read *Relationi Universali* (1596) Giovanni Botero could infer from the position of the stars that ‘[s]outherne people having the greatest portion of their other humours drawne out by the heat of the Sun, the melancholike... remaine, and as dregges settle at the base of all their actions, being the more exasperated by their coward and perverse dispositions.’⁶⁷ Add to this the peculiar climate of the Americas, and it was no surprise that ‘[t]he Inhabitants are of a swarty complexion, fairer or fouler, according to their different situations. Not very well favoured, but of savage & brutish behaviours, excellent footmen and swimmers, clearly in their bodies, naked, libidinous, and men eaters.’⁶⁸ The proper way to manage this combination of bodily strength and moral depravity was through the imposition of strictly organized and controlled work on the peoples of the South, something which at this point was being accomplished

⁶⁴ José de Acosta, *The Naturall and Morall Historie of the East and West Indies Intreating of the remarkable things of heaven, of the elements, mettalls, plants and beasts which are proper to that country: together with the manners, ceremonies, lawes, governments, and warres of the Indians*, trans. by Edward Grimston, (London: Edward Blount and William Aspley, 1604), V, 2-6.

⁶⁵ Acosta, *Naturall and Morall Historie*, V, 11.

⁶⁶ Acosta, *Naturall and Morall Historie*, VII, 27 & 28, 583 & 589.

⁶⁷ Giovanni Botero, *Relations of the most famous kingdomes and common-wealths thorowout the world discoursing of their situations, religions, languages, manners, customes, strengths, greatnesse, and policies*. (London: John Hauiland, 1630), 14.

⁶⁸ Botero, *Relations of the most famous kingdoms*, 627.

with great determination in Spanish America. As the colonial administrator Juan de Solórzano argued in his *Politica Indiana* (1647), the Spanish crown should emulate the tyrannical policies of the Incas and Montezuma, who had known how to keep the Indians busy at all times: ‘even in the absence of profitable occupations, they worked in others of no use and benefit, even gathering lice in satchels, cutting rocks of immense size, paving valleys and roads, and building in them very sumptuous inns.’⁶⁹ But as Esguerra has shown in detail, these negative characterizations of the celestial constellations of the New World and their sublunary influences did not go down too well with Creole settlers, since it would follow that they would sooner or later take on the same negative traits by virtue of inhabiting the same region as the Indians. Thus, according to the missionary Bernabe Cobo, the strongest argument against the influence of climate, is ‘that the Spaniards who live here do not slowly lose their color and take on that of the Indians, which inescapably would have to be the consequence if...the characteristics of the land determined the color of the natives.’⁷⁰ So in an elaborate defense of their virtue and valor, Creole elites developed their own brand of patriotic astrology that made it possible to blame the idleness of the Indians on their bodily characteristics rather than on differences of climate, thereby marking the birth of ‘scientific’ racism.⁷¹

Stars of empire

The terms in which Iberian overseas expansion was understood by contemporaries owed very little to the emergent scientific worldview of the day but all the more to a received tradition of medieval and renaissance knowledge in which the then inseparable enterprises astronomy and astrology occupied center stage. Detailed knowledge of celestial bodies and their positions was necessary to navigate the oceans and get to foreign shores, while knowledge of their symbolic

⁶⁹ Juan de Solórzano Pereira, *Politica Indiana*, (Madrid: Diego Diaz de la Carrera, 1647), II.VI, 92. For a detailed analysis, see James Muldoon, *The Americas in the Spanish World Order. The Justification for Conquest in the Seventeenth Century*, (Philadelphia: University of Pennsylvania Press, 1994), 38-65.

⁷⁰ Bernabe Cobo, *History of the Inca Empire*, [c. 1639], trans. by Roland Hamilton, (Austin: University of Texas Press, 1979), 11.

⁷¹ Esguerra, ‘New World, New Stars’, 49-68.

meaning and influences was necessary to make sense of the strange plants, animals, and peoples found on these shores. Iberian empires were established by means of that peculiar form of knowledge, and it was evident that these changes in empire were enough to refute Copernicus even though it was *his* terraqueous globe whose waterways had been opened navigation and mastery by a generation of Iberian cosmographers and cartographers. Hence the conquest of America took place in the interstices of a geocentric and heliocentric worldview in that brief interlude when the Copernican revolution still was under challenge. Overseas expansion was therefore less a result of early scientific achievements and more motivated and facilitated by beliefs that were borderline heretic in their own day and soon would be cast aside as superstitious once the former had triumphed over its renaissance competitors.

This underlying worldview also goes some way to explain how systematic violence became embedded in colonial institutions such as the *encomienda* in early Spanish America. Celestial constellations and conditions of climate dictated that the Indians were either of a melancholic or phlegmatic disposition and therefore unlikely to respond well to the modes of governance suitable to peoples of the northern or middle regions of the earth. Quite irrespective of whether the Indians were deemed wild or idle, a combination of hard regimented labor and religious instruction would not only render them docile laborers in the service of an extractive imperial economy, but also pave way for their conversion and final redemption in afterlife. But this was not so much a matter of othering in the sense that it helped to constitute European sameness in the process, but rather a matter of assimilating the Indians into a preordained and universal scheme of classification into which all beasts and human beings could be neatly fit.⁷² Nor had this much to do with the Iberians becoming modern, but all the more with a successful export of an essentially medieval mindset to a continent whose subsequent fate it would thereby seal.

⁷² Compare Todorov, *Conquest of America*, 1-3.

