

***Ssegunt natura de los çielos e de las otras cosas spirituales:***  
**Alfonso X, Astrology, and Kingship**

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## ABSTRACT

As king, Alfonso oversaw an intellectual court that translated and composed historical, poetic, and scientific texts. The scientific texts have inspired scholarly study, investigation, and celebration since their production in the thirteenth century. As a patron of the sciences, Alfonso centered his project on astral science, from judicial astrology to the design of technical instruments. Through translations and original compositions on astrology, Alfonso deployed the science's specific and unique set of resources. This thesis uses Alfonso's scientific texts to analyze how and why astrology was particularly useful to a thirteenth century king. Confronted with a religious, ethnically, and politically diverse kingdom, Alfonso invoked astrology as the core element of his intellectual program. Astrology, more so than other sciences, addressed the specific political needs of Alfonso in the context of medieval Castile. In the medieval period, natural philosophy was the study of God's creation. Astrology, the highest form of natural philosophy, was intimately linked to God and could reveal His will to mankind. Alfonso drew on this connection between nature and the divine and employed astrology to assert his religious, political, and intellectual authority over his diverse subjects. By demonstrating his mastery of the celestial bodies, Alfonso drew on the unassailable authority of the natural world and God as a mechanism to legitimize his authority over all three faiths. In this way, he employed the relationship between the celestial spheres and the divine enlist the support of his subjects and, ultimately, to convert them to a uniform Christian faith that recognized him as the arbiter of God's will.

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## INTRODUCTION

In the late sixteenth century Jerónimo de Zurita, the official chronicler of the kingdom of Aragón, penned his *Anales de la corona de Aragón*.<sup>1</sup> Often considered the founder of modern historical scholarship in Spain, Jerónimo composed the *Anales* as the royal history of Aragón and its interactions with the other Iberian kingdoms. In it he described the rule of Alfonso X, king of Castile from 1252 through 1284, and recounted a curious anecdote of the death of Fernando de la Cerda, the king's heir:

An ancient Portuguese author writes something that is worth considering: that the cause of the death of the Infante [Fadrique], was that the king wanted to know, of the most learned in Astrology-- to whom he gave more credit than was deserved-- what would be his [Alfonso's] end, and they told him that he would die disinherited from his reign by a man of his blood, and for this reason Alfonso ordered the Infante Fernando-- and Señor de los Cameros, who was married to the daughter of the Infante-- killed, fearing that it was from there that the evil would come.<sup>2</sup>

In this account, although most likely fabulous, a Portuguese historian attributed two events in the life of Alfonso X to astrology: the execution of his brother, Infante Fadrique, and the eventual treason of his second born, the future Sancho IV. Alfonso ordered the execution of his brother and Simón Ruiz de los Cameros in 1277, an act which terrified the nobility during a time of

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<sup>1</sup> Information on Jerónimo de Zurita is drawn from the *Encyclopaedia Britannica* and the *Gran enciclopedia Aragonesa*.

<sup>2</sup> "Escribe un antiguo escritor portugués una cosa que es digna considerarse: que la causa de la muerte del infante, fue que como el rey quiso saber por los más señalados en Astrología, a quien le daba crédito, fuera de lo que debía, cuál había de ser su fin, y le dijese que había de morir desheredado del reino por hombre de su sangre, por esta razón mandó matar al infante y al señor de los Cameros, que estaba casado con hija del infante, temiendo que de allí le había de venir el mal." Quoted in Antonio Ballesteros y Bereta, *Alfonso X el Sabio* (Barcelona: Imprenta Hispano-Americana, 1963), 820.

considerable political instability.<sup>3</sup> Three years later, in 1281, Sancho IV deposed his father and assumed a role as de facto king.<sup>4</sup>

The execution of Fadrique and the treason of Sancho were two acute political and personal crises during the reign of Alfonso X, and de Zurita's decision to explain them through astrology indicates the fundamental role of astral science in any understanding of Alfonso's life and rule. Jerónimo's account of an "ancient" Portuguese author depicted Alfonso using astrology to inform his political decisions during the crisis of succession, a time of political upheaval that defined his reign.<sup>5</sup> Jerónimo's retelling of the past, which was intended as the official history of Iberian monarchs, demonstrated that Alfonso's legacy was deeply embedded in his activity as a patron of astrology. Astrology was a major element of Alfonso's activity as king. With access to the great libraries of al-Andalus, Alfonso chose to translate, redact, and compose scientific works that focused almost exclusively on judicial astrology, astronomical instruments, and tables.<sup>6</sup> His

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<sup>3</sup> Joseph F. O'Callaghan, *The Learned King: The Reign of Alfonso X of Castile* (Ithaca: Cornell University Press, 2005), 241.

<sup>4</sup> Alfonso's firstborn son and heir, Fernando de la Cerda, died in 1275 and caused a lengthy succession crisis that culminated in the treason of Sancho IV. For a more detailed description of the succession crisis, see O'Callaghan, *The Learned King*, 234-247; Peter Linehan, *Spain, 1157-1300: A Partible Inheritance* (Oxford: Blackwell Publishing, 2008), 169-204; or Ballesteros y Baretta, *Alfonso X el Sabio*, especially "Chapter XV: El desastre," 735-780, and "Chapter XVI: La herencia de Castilla," 781-861.

<sup>5</sup> The crisis of succession remains a definitive moment in Alfonso's reign through modern scholarship. In the 16<sup>th</sup> century, it was the basis for the 17<sup>th</sup>-century Jesuit historian Mariana's statement that Alfonso had "pondered the heavens but lost the earth." Until around the 1980s, the succession crisis remained a major part of the argument that Alfonso was an inept ruler whose disastrous rule ultimately ended in his deposition and complete failure. Historians have mostly reconsidered this position, and now celebrate Alfonso as a shrewd ruler plagued by difficult political, economic, and demographic circumstances. For a demonstration of the shifts in opinion, compare the stance of Joseph O'Callaghan, *A History of Medieval Spain* (Ithaca: Cornell University Press, 1975), 358-405 with his later work, *The Learned King*. For a second an earlier assessment, see Rhea Marsh Smith, *Spain: A Modern History* (Ann Arbor: University of Michigan Press, 1965) 64-65.

<sup>6</sup> There is new evidence that he also translated agricultural works. See Francisco Márquez Villaneuva, *El concepto cultural alfonsí* (Barcelona: Ediciones Bellaterra, 2004), 194.

enduring efforts to establish himself as an expert in astrology earned him the appellation “*el Astrólogo*.” Mastery of astral science was a key element in Alfonso’s broader efforts to solidify his kingship, and he turned to the science for concrete reasons and to achieve specific religious and political goals. Alfonso’s use of astrology especially as a political tool has yet to attract scholarly attention that sufficiently explains how and why astral science addressed his specific needs as king.

Alfonso’s scientific works have long attracted the attention of scholars, but few have recognized them as a coherent project or have addressed their religio-political role in his kingship. There have been many studies on the scientific content of Alfonso’s astrological texts, which sources he drew from, how the translation process functioned, and how it altered scientific understanding of the thirteenth century.<sup>7</sup> Typically, such studies have privileged modern sciences such as astronomy and mathematics at the expense of Alfonso’s own definition of science, a definition that emphasized astrology. A handful of recent works begin to gesture towards the potential political utility of Alfonso’s cultural projects, but they do so ambiguously. Scholars often refer to Alfonso’s intellectual project or scientific texts without addressing the specific role of astrology. They often group Alfonso’s production of astrological texts with his patronage of

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<sup>7</sup> For descriptions of how the translation process functioned, see Clara Foz, *El traductor, la Iglesia y el rey: la traducción en España en los siglos XII y XIII* (Barcelona, Editorial Gedisa, 2000), Evelyn Procter, *Alfonso X of Castile: Patron of Literature and Learning* (London: The Clarendon Press, 1951), and Julio Samsó, ed., *La escuela de traductores de Toledo* (Toledo: Comograf: Artes Gráficas, 1996). For analysis of how Alfonso’s scientific corpus affected the larger European intellectual sphere, see Juan Vernet Ginés, *Historia de la ciencia española* (Madrid: Instituto de España, 1976) and *La cultura hispanoárabe en Oriente y Occidente* (Barcelona: Ariel, 1978). The work of Alejandro García Áviles examines the astrological and mythical images of Alfonso’s texts to determine the sources he drew from and the circulation of his works: “Alfonso X y el *Liber Razielis*: imágenes de la magia astral judía en el *scriptorium* alfonsí,” *Bulletin of Hispanic Studies*, 74 (1997): 21-39 and “Imágenes mágicas: la obra astromagia de Alfonso X y su fortuna en la Europa bajomedieval,” in *Alfonso X: Aportaciones de un rey castellano a la construcción de Europa*, ed. Miguel Rodríguez Llopis (Murcia: Consejería de Cultura y Educación, 1997): 135-172.

other genres, such as his histories and poetry, and attribute his entire intellectual and cultural project to his love of learning, his desire to elevate the cultural prestige of his people, or his secular humanist drive for knowledge.<sup>8</sup> Such assessments of Alfonso's patronage practices fail to situate the king's actions in the intellectual and political context of the medieval era. In thirteenth century Europe, the contemporary concept of cosmology and natural philosophy precludes any notion of secular humanism. In the middle ages, every effort to study and understand the natural world was a form of natural philosophy. Throughout the middle ages and into at least the sixteenth century natural philosophy was first and foremost a study of God's creation, the natural world, in order to gain a better understanding of God.<sup>9</sup> In the thirteenth century, no effort to study the natural world was secular nor was it inherently valued for the sake of knowledge. Natural philosophy was inseparable from faith and, under the patronage of a monarch, inherently political. Understood in this way, Alfonso's "polymath hunger" for natural knowledge, which focused on astral science, takes on a new, religio-political meaning.<sup>10</sup> Historians of science have misunderstood Alfonso's scientific project because they have divorced it from the political and religious context that gave it meaning or have interpreted it in abstract terms. Alfonso did seek to foster a higher level of learning among his Christian subjects, but this intellectual project must

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<sup>8</sup> See, for example, Francisco Márquez Villanueva, "The Alfonsine Cultural Concept," in *Alfonso X of Castile, The Learned King (1221-1284)*, eds. Francisco Márquez Villanueva and Carlos Alberto Vega. (Cambridge: Dept. of Romance Languages and Literatures, 1990), especially page 40 where he claims Alfonso's goal was the "creation of a higher, learned culture in the vernacular Castilian language."

<sup>9</sup> Even in the sixteenth century, Newton described his work as natural philosophy that examined God's creation. Andrew Cunningham, "How the *Principia* Got Its Name: Or, Taking Natural Philosophy Seriously," *History of Science*, 29 (1991): 377-390.

<sup>10</sup> Robert I. Burns, S.J., "*Stupor Mundi*: Alfonso X of Castile, the Learned" in *Emperor of Culture: Alfonso X the Learned of Castile and His Thirteenth-Century Renaissance*, ed. Robert I. Burns, S.J. (Philadelphia: University of Pennsylvania Press, 1990), 1.



not be understood, as others have interpreted it, as a secular humanist desire to increase his kingdom's cultural prestige.<sup>11</sup>

Historians who have focused on Alfonso's cultural and political program have gestured to Alfonso's scientific activities to find support for their interpretation of his reign as characterized by a secular humanist desire for knowledge. Francisco Márquez Villanueva produced one of the most extensive attempts to understand the political reasoning behind Alfonso's intellectual project. In his *El concepto cultural alfonsí*, Márquez Villanueva remarks that "the scientific corpus is the area where Alfonso most directly realized his cultural concept."<sup>12</sup> However, he fails to explain how and why astrology was politically useful, and states instead that "[Alfonso's] true goal was nothing more than to promote a program of authentic scientific investigation."<sup>13</sup> Márquez Villanueva notes the absence of metaphysics and philosophy in Alfonso's intellectual work, and labels this absence "the great hole in the Alfonsine cultural project" rather than asking why Alfonso chose to dedicate his patronage of science almost exclusively to astrology. Such an explanation divorces his intellectual project from the political and religious context that offers meaning to Alfonso's scientific corpus. In another work dedicated to the same subject, Márquez Villanueva boldly states that "[Alfonso X's] interest in Oriental culture was not due, as in the case of Llull and the mendicant friars', to any idea of 'spiritual reconquest,' and that "the Alfonsine cultural concept was at heart heading away from the medieval, Augustinian world-

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<sup>11</sup> For examples of arguments of the secular humanist nature of Alfonso's scientific corpus, see: Roberto J. González Casanovas, "Alfonso X's Scientific Prologues: Scholarship as Enlightenment," *Medieval Perspectives* 6 (1991): 113-121; Márquez Villanueva, *El concepto cultural alfonsí*.

<sup>12</sup> Márquez Villanueva, *El concepto cultural alfonsí*, "la obra científica es tal vez el area donde más directamente se actualiza el concepto cultural alfonsí." 192.

<sup>13</sup> "Elegía para ello lo mejor del saber natural de su tiempo y su verdadero fin no era sino promocionar un programa de auténtica investigación científica." Márquez Villanueva, *El concepto cultural alfonsí*, 192.

view toward a rational and secularist one.”<sup>14</sup> A thorough analysis of Alfonso’s scientific corpus will demonstrate that his worldview was anything but secularist. Alfonso understood his intellectual project as a fundamentally religious and pious endeavor that invoked rational elements of the natural world to communicate a spiritual message and to propound a uniform political ideology based on that message.

When scholars have gestured toward the link between learning, politics, and faith, they do so in vague terms that do not address the specific role of astrology. Joseph F. O’Callaghan, whose work captures and celebrates the complexities of Alfonso’s reign, notes that the king saw “the unity of all knowledge... as a manifestation of God’s presence,” and that Alfonso saw himself as “rendering homage to God and bringing God and humanity closer to communication.”<sup>15</sup> However, O’Callaghan concludes only that Alfonso was determined to raise the education level of his people, to organize the entire body of human knowledge, and to make it accessible to the widest possible audience.<sup>16</sup> O’Callaghan makes no connection between his observation on the spirituality of knowledge and Alfonso’s desire to educate his people and fails to ask: Exactly why and how was knowledge and learning politically useful? Similarly, Robert I. Burns states that “Alfonso’s scholarly projects were not so purely intellectual as many have thought, nor his attitude toward Muslims and Jews so innocent of proselytizing aims,” but unfortunately does not elaborate on this single suggestion.<sup>17</sup> In later work, Burns retreats from his earlier observation, claiming only that “[Alfonso] proposed...to reshape society, to bring Castile itself into the mainstream of high civilization and to set afoot a process that would create

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<sup>14</sup> Márquez Villanueva, “The Alfonsine Cultural Concept,” 80-82.

<sup>15</sup> O’Callaghan, *The Learned King*, 131.

<sup>16</sup> *Ibid.*, 131.

<sup>17</sup> Robert I. Burns, S.J., “Castle of Intellect, Castle of Force,” in *The Worlds of Alfonso the Learned and James the Conqueror*, ed. Robert I. Burns, S.J. (Princeton: Princeton University Press, 1985), 19.

a united, educated, artistic, and religious people.”<sup>18</sup> Burns’s analysis addresses the political and religious nature of Alfonso’s intellectual program, but he makes no effort to identify or explicate it. Neither he nor O’Callaghan consider Alfonso’s patronage of learning further to ask: why? Elevating Christian culture and intellectual achievement was one of Alfonso’s goals, but a closer examination of the sources will reveal how Alfonso aimed to do so and why it was politically efficacious.

Even when scholars take it as a goal to understand the connection between politics and learning, they do so in ambiguous and generalizing terms. Roberto González Casanovas makes a more explicit connection between Alfonso’s intellectual project and political power, and hints at how he addressed Muslim culture. González Casanovas likens Alfonso’s patronage to an “intellectual reconquest” that sought “to create a stronger kingdom, a nobler ruler, a truer science, and a better nation: for him, wisdom thus signifies the proper exercise of power, virtue, knowledge and justice by a literate and humane Court on behalf of all people.”<sup>19</sup> Here González Casanovas recognizes that Alfonso’s cultural project was intimately linked to the monarch’s notion of power and kingship, but insists on calling Alfonso a secular humanist and divorces learning from faith. In another article, he even ventures to ask why Alfonso chose to advocate the “cultivation of a vernacular secular culture” instead of “conversion to the Christian religion.”<sup>20</sup> Such an understanding of knowledge begins to recognize the inherent political nature of Alfonso’s intellectual project, but strips it of any connection to religion.

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<sup>18</sup> Burns, “*Stupor Mundi*: Alfonso X of Castile, the Learned,” 5.

<sup>19</sup> González Casanovas, “Alfonso X’s Scientific Prologues: Scholarship as Enlightenment,” 115.

<sup>20</sup> Roberto González Casanovas, “Alfonso X’s Concept of Hispania: Cultural Politics in the Histories,” in *Concepts of National Identity in the Middle Ages*, ed. Simon Forde, Lesley Johnson, and Alan V. Murray (Leeds: University of Leeds, 1995), 156.

Unlike most other scholars, David Assouline discusses the religious and political nature of Alfonso's scientific texts and how his broader intellectual activity was useful for a king who ruled a religiously, ethnically, and politically diverse kingdom. However, Assouline still separates religion from politics and largely ignores astrology—the science that united Alfonso's project—and the specific qualities of astrology that Alfonso found useful. According to Assouline, Alfonso wished to create a “cosmological and legal framework” based on a “political religion” with himself at the center.<sup>21</sup> Astrology allowed Alfonso to promote the idea that “Christianity can be found in the proper aesthetic appreciation of the heavens,” which was “intended to convert a nation of Jews, Muslims, and Christians to a strange and utopian concept of Christianity.”<sup>22</sup> While Alfonso did invoke astrology as a mechanism to promote religious conversion, it was not in an effort to create a “strange” Christianity nor was his use of natural philosophy to promote conversion odd or even atypical. For Alfonso, astrology represented a means to convert his peoples to a uniform, orthodox Christian faith. Religious conversion to a single faith at the behest of the king would have centralized Alfonso's power and affirmed his right to rule.

Astrology represented a specific set of resources that Alfonso deployed to realize his needs as a monarch. More so than other sciences, astrology was an especially powerful mechanism to legitimize royal authority and centralize power. The religious, ethnic, and political diversity of Castilian subjects represented a serious threat to Alfonso's ability to govern, and he addressed this issue by enlisting astrology and its connection to the irrefutable authority of nature and the divine. For Alfonso, astrology was a politically useful tool that could promote religious and social cohesion in a kingdom that otherwise was divided by religio-political ideologies.

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<sup>21</sup> David Assouline, “The Utopian Fictions of Alfonso X” (PhD diss., Yale University, 2009), 32.

<sup>22</sup> Assouline, “The Utopian Fictions of Alfonso X,” 100-1 and 111.

Astrology was uniquely authoritative in such a context for it was a systematic body of knowledge shared by the different faiths and cultures across the Iberian peninsula. All levels of Christian, Jewish, and Muslim culture accepted the authority of astrology as a means for understanding the relationship between humans and nature, on the one hand, and nature and God on the other. Alfonso's patronage of astrology and his desire to command astral science were not arbitrary or accidental, nor a result of his personal intellectual interests.<sup>23</sup> He made astrology the core of his intellectual projects—his translations, his construction of instruments, and his commissioned works—because it could achieve what other knowledge could not: it connected his reign to the authority of the natural world and to God's plan; it allowed the king to fashion his image as an expert who informed his political decisions with natural philosophy and divine knowledge; and it created a single, Christian religio-political ideology that defended Catholic orthodoxy and promoted conversion to the one true faith.

A closer analysis of Alfonso's approach to astrology, kingship, and faith calls for a reassessment of the secular nature of his monarchy and his attitude toward *convivencia*. Traditional analyses of medieval Castilian kingship highlight its secular character mainly by contrasting its monarchs with those of France and England.<sup>24</sup> Recent scholarship, however, has redefined the nature of the Castilian monarchy and suggested that Alfonso viewed himself as a pious ruler who drew his authority from a close relationship with God and the Virgin Mary.<sup>25</sup>

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<sup>23</sup> Historians such as Procter and Ballesteros y Beretta explain Alfonso's focus on astral science as a manifestation of the king's fascination with astrology and mystical knowledge. Such explanations ignore the religious and political dynamics of Alfonso's reign, and dismiss any conscious use of the science for personal gain.

<sup>24</sup> See, for example, the subsection labeled "The Secular Character of the Castilian Monarchy" in O'Callaghan, *The Learned King*, pages 24-25.

<sup>25</sup> The *Cantigas de Santa María* alone are strong evidence against the secular nature of Alfonso's monarchy. See Amy Remensnyder "Marian Monarchy in Thirteenth-Century Castile," in *The Experience of Power in Medieval Europe, 950-1250*, eds. Robert F. Berkhofer III, Alan Cooper,

Scholars have also begun to question the supposed *convivencia*, or coexistence, of the three faiths.<sup>26</sup> Past scholarship has glorified the peaceful religious toleration of thirteenth-century Spain. Alfonso oversaw the codification of law in the *Espéculo* and the *Siete Partidas*—legal codes that repress and marginalize Jews and Muslims— but he never promulgated them. Historians often conclude that the contents of these legal codes therefore misrepresent Alfonso's attitude toward his Jewish and Muslim subjects, and argue that his humanist approach to knowledge celebrated other faiths and cultures.<sup>27</sup> Recent scholarship has challenged the accepted idea of *convivencia* to argue that Alfonso could not expel all non-Christians because his economy and administration depended on them.<sup>28</sup> A reinterpretation of Alfonso's scientific corpus that focuses on the religious and political instrumentality of astrology reveals the importance of faith, especially Christian orthodoxy, in Alfonso's kingship.

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and Adam Kosto (Burlington: Ashgate Publishing Co., 2005): 253-270; and George D. Greenia, "The Court of Alfonso X in Words and Pictures: the *Cantigas*," in *Courtly Literature: culture and context; selected papers from the 5<sup>th</sup> Triennial Congress of the International Courtly Literature Society*, eds. by Keith Busby and Erik Kooper (Philadelphia: Benjamins Publishing Co., 1990): 227-236.

<sup>26</sup> For different opinions about *convivencia*, see: Jonathan Ray, "Beyond Tolerance and Persecution: Reassessing Our Approach to Medieval 'Convivencia,'" *Jewish Social Studies*, New Series 11, 2 (Winter, 2005): 1-18.; Dwayne E. Carpenter, *Alfonso X and the Jews: An Edition of and Commentary on Siete Partidas 7.24 "De los judíos."* (Los Angeles: University of California Press, 1986); Dwayne E. Carpenter, "Minorities in Medieval Spain: The Legal Status of Jews and Muslims in the *Siete Partidas*," *Romance Quarterly* 33, 3 (August 1986): 275-288; Juan Torres Fontes, "Los mudéjares murcianos en la Edad Media." *Actas del III Simposio Internacional de Mudejarismo*. (Teruel: Instituto de Estudios Turolenses, 1984): pg. 55-66.; Elvira Francisco, "Consideración social de los judíos a través de las *Cantigas de Santa María*," *Revista de literatura medieval* 8 (1996): 91-103; O'Callaghan, *The Learned King*, 96-113; and Linehan, *Spain, 1157-1300*, 86-100.

<sup>27</sup> Julio Valdeón, "Alfonso X y la convivencia cristiano-judío-islámico," in *Estudios alfonsíes: Lexicografía, lírica, estética y política de Alfonso el Sabio*, eds. José Mondéjar and Jesús Montoya (Granada: Facultad de Filosofía y Letras, 1985): 167-177.

<sup>28</sup> Linehan, *Spain, 1157-1300*, 86-100.

## HISTORICAL CONTEXT

When Alfonso X assumed the throne on the first of June 1252, he acquired an expansive, diverse, a troublesome kingdom. No single Christian ruler had united as much territory since the Muslim conquest over five centuries before (see Figure 1 in appendix). Alfonso's father, Fernando III, led an impressive military campaign that reconquered the entire Guadalquivir Valley in little over twenty years.<sup>29</sup> Between 1224 and 1248, Fernando conquered Seville, Cordoba, Murcia, and Jaen, and forced the kingdom of Granada into vassalage<sup>30</sup> As a result, Alfonso inherited vast tracts of land that were either completely empty, and therefore risked invasion, or densely populated by an advanced Arab civilization that had resided there for half a millennium and that constantly threatened revolt. Both situations required an extensive repopulation project, which first Fernando and then his son struggled to implement.<sup>31</sup> Post-reconquest demographic changes caused significant economic problems that plagued Alfonso's reign and threatened his ability to govern.<sup>32</sup> After the military feats of Fernando III, thousands of skilled Muslim workers emigrated to Granada, which led to an abrupt shortage of skilled workers and manufactured goods.<sup>33</sup> Repopulation, which relocated Christians from the north and

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<sup>29</sup> Salvador de Moxó, *Repoblación y sociedad en la España Cristiana medieval* (Madrid: Ediciones Rialp, 1979), 349; and Joseph F. O'Callaghan, *Reconquest and Crusade in Medieval Spain* (Philadelphia: University of Pennsylvania Press, 2003), 83-99.

<sup>30</sup> For details on Spanish reconquest and repopulation, see Jean Gautier Dalché, *Historia urbana de León y Castilla en la Edad Media (siglos IX-XIII)* (Madrid: Siglo XXI de España Editores, 1979); Salvador de Moxó, *Repoblación y sociedad en la España Cristiana medieval*; José María Mínguez, *La España de los siglos VI al XIII: Guerra, expansion, y transformaciones* (San Sebastian: Editorial Nerea, 1994); and O'Callaghan, *Reconquest and Crusade in Medieval Spain*.

<sup>31</sup> Salvador de Moxó, *Repoblación y sociedad en la España Cristiana medieval*, especially 349-360.

<sup>32</sup> Joseph F. O'Callaghan, "Paths to Ruin: The Economic and Financial Policies of Alfonso the Learned," in *The Worlds of Alfono the Learned and James the Conqueror: Intellect and Force in the Middle Ages*, ed. Robert I. Burns, S.J. (Princeton: Princeton University Press, 1985), 42.

<sup>33</sup> *Ibid.*, 42.

attempted to resettle them in Andalusia, led to the depopulation of many northern villages and ultimately caused rampant inflation.<sup>34</sup>

Alfonso faced many problems during his reign and repeatedly failed to address them in the traditional Castilian fashion.<sup>35</sup> For centuries, Christian monarchs on the Iberian Peninsula had based their political authority in their campaigns for territorial reconquest. Traditional notions of a king's legitimacy were grounded in military prowess, which Alfonso described in his *Estoria de Espanna*. In a passage of his history of Spain, Alfonso recounted the supposed final advice of Fernando III from his deathbed:

And he also said: "I leave you with all the land of the sea, that the Moors of King Rodrigo of Spain had won; and in your domain remains everything; the one conquered, the other in tribute. If you maintain this state in which I leave you, you are as good a king as I; and if you win more for yourself, you are better than I; and if this lessens, you are not as good as I."<sup>36</sup>

Here, reconquest was the sole means for a king to prove his merit. Alfonso, acutely aware that his father's political success stemmed from his military success, attempted to extend his own borders. On the Iberian Peninsula, Alfonso attempted to assert himself as heir to the Visigothic Empire, which had once covered all of the peninsula and North Africa, by declaring himself the

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<sup>34</sup> Ibid., 42.

<sup>35</sup> For a more detailed summary of Alfonso's political, demographic, and economic challenges, see Manuel González Jiménez, "Alfonso X, rey de Castilla y León (1252-1284)" in *El scriptorium alfonsí: de los libros de astrología a las "Cantigas de Santa María,"* eds. Jesús Montoya Martínez and Ana Domínguez Rodríguez (Madrid: Fernández Ciudad, S.L., 1999): 1-16.

<sup>36</sup> "Et dixol mas: 'Ssennor te dexo de toda la tierra de la mar aca, que los moros del rey Rodrigo de Espanna Ganado ouieron; et en tu sennorio finca toda; la vna conquerida, la otra tributada. Sy la en este estado en que te la yo dexo la sopieres guardar, eres tan buen rey commo yo; et sy ganares por ti mas, eres meior que yo; et si desto menguas, non eres tan bueno commo yo.'" Ramón Menéndez Pidal, *Primera Crónica General: Estoria de España que mandó componer Alfonso el Sabio y se continuaba bajo Sancho IV en 1289, vol. I* (Madrid: Bailly-Bailliere É Hijos, Editores, 1906), 772-3.



*nobilis Hesperie princeps*, or emperor of Spain.<sup>37</sup> King Jaime I of Aragón, Alfonso's brother-in-law and neighbor, was concerned enough with his ambitions to appoint a procurator to oppose any contention that Alfonso should be Hispanic emperor.<sup>38</sup> Alfonso also attempted to claim territories in the Algarve and Navarre, which, like his desire to become Emperor of Spain, ended in failure.<sup>39</sup> From his ascension in 1252 through the mid 1260s, Alfonso planned an invasion of North Africa but ultimately failed to establish a Christian foothold on the African coast.<sup>40</sup> Between 1257 and 1275 he also invested considerable resources in a campaign to be elected Holy Roman Emperor.<sup>41</sup> By attempting to expand his domain, Alfonso attempted both to establish and to reinforce his legitimacy as king. His repeated failures forced him to look elsewhere for political authority.<sup>42</sup>

Alfonso's lack of traditional military power undermined his authority, giving rise to a number of challenges to his rule. The *mudéjares* of Murcia, bound only by vassalage in a province that was overwhelmingly Muslim, always represented a threat to royal sovereignty. In 1264, while Alfonso crafted plans to expand his territory and control the straits of Gibraltar, King Ibn al-Ahmar of Granada organized uprisings among the *mudéjares* of Murcia.<sup>43</sup> Murcia

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<sup>37</sup> The heir to León traditionally viewed himself as the heir to the Visigothic empire, whose capital was in Toledo, León. O'Callaghan, *The Learned King*, 150.

<sup>38</sup> Ibid., 150.

<sup>39</sup> Ibid., 145-162. For descriptions of Alfonso's quest for Holy Roman Emperor, see also: Ballesteros y Baretta, *Alfonso X el Sabio*, 143-212 and 674-734; and Carlos Estepa Díaz, "El 'fecho de Imperio' y la política internacional en la época de Alfonso X," in *Estudios alfonsíes: Lexicografía, lírica, estética y política de Alfonso el Sabio*, eds. José Mondéjar and Jesús Montoya (Granada: Facultad de Filosofía y Letras, 1985): 189-205.

<sup>40</sup> O'Callaghan, *The Learned King*, 167-180.

<sup>41</sup> O'Callaghan, "Paths to Ruin," 41-67.

<sup>42</sup> Robert I. Burns draws a comparison between Alfonso's view of the "philosopher-king" to past monarchs' view of the "warrior-upholder of justice." Burns, "Castle of Intellect, Castle of Force," 20.

<sup>43</sup> Moors of Arcos, Lebrija, Medina Sidonia, Matrera, Jerez, Lorca rose against Castilian occupation. O'Callaghan, *The Learned King*, 183.

had been under Christian rule for twenty years, but continued to resist Castilian occupation and now openly rejected Alfonso's authority. The continued resistance of the *mudéjares* demonstrated the serious political instability in the southern territories.<sup>44</sup> Like the Moors, Christian subjects consistently challenged the extent of Alfonso's authority. The towns, clergy, and Castilian nobility continuously complained of Alfonso's tax increases and encroachments on their rights. Their discontent came to a head in 1272, when Alfonso departed to meet Pope Gregory and hopefully set a date for the king's imperial coronation.<sup>45</sup> While Alfonso was absent, his brother Infante Felipe visited Henry I of Navarre and sent delegates to the kings of Granada, Morocco, and Portugal, encouraging them to wage war on Castile.<sup>46</sup> When Alfonso returned, delegates from the nobility, clergy, and towns confronted him at the *cortes* of Burgos, where he was forced to make concessions.<sup>47</sup> Despite his attempts at appeasement, the rebellious magnates and their 1,200 followers, including the king's brother, rejected Alfonso's sovereignty, surrendered their royal castles, and went into exile in the kingdom of Granada.<sup>48</sup> There they allied with Ibn al-Ahmar and plotted against Alfonso during the next year. Eventually the two parties reached agreement, the nobles returned, and the king of Granada again accepted vassalage. Throughout his reign, Alfonso was constantly plagued by threats to his authority, from Christian and non-Christian subjects alike.

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<sup>44</sup> The *mudéjar* revolt of 1264 was not the only attempt to overthrow Alfonso's authority in southern Spain. From 1275-1277, the Benimerine dynasty of Morocco invaded the Iberian Peninsula, pillaging Christian territory. O'Callaghan, *The Learned King*, 234-6; Ballesteros y Baretta, *Alfonso X el Sabio*, 735-780.

<sup>45</sup> For descriptions of the revolt of the nobles, see: O'Callaghan, *The Learned King*, 215; Ballesteros y Baretta, "La rebelión de los nobles," in *Alfonso X el Sabio*, 477-535.

<sup>46</sup> O'Callaghan, *The Learned King*, 215.

<sup>47</sup> *Ibid.*, 214-223.

<sup>48</sup> *Ibid.*, 223.

Repeated confrontations between Alfonso and his subjects did not mean that he was an inept or incompetent ruler. Alfonso recognized the problems that he faced as a ruler, and adapted the image and role of the monarch to address the religious, political, demographic, and economic instability of his reign. He responded to challenges to his authority with a unified, multifaceted political and intellectual program that aimed to centralize and legitimize royal power. His agenda had two main components, one governmental and the other intellectual. Alfonso reshaped the Castilian government by increasing the size of the royal administration and replacing regional legal traditions with a single, uniform legal code. Administrative and legal innovations allowed Alfonso to extend his influence throughout the realm, to exercise increased economic control through increased taxes, especially on the clergy, and commercial regulations, and to redefine the nobility through land partitions, using estates to gain support from select individuals.<sup>49</sup> Alfonso's systematic legal codes, the *Siete Partidas*, especially represented his efforts to assert his authority over the political, religious, and social aspects of Castilian life.<sup>50</sup> Within the *Siete Partidas*, Alfonso not only declared how individuals should behave according to Christian and Roman law, but dictated how subjects should interact with each other, all institutions, and the king. Through the *Siete Partidas*, Alfonso appropriated the right to define how his subjects conducted all manners of their daily behavior, which centralized his power over his diverse

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<sup>49</sup> For information on Alfonso's development of the royal administration, see: Jaime de Salazar y Acha, *La casa del Rey de Castilla y León en la Edad Media* (Madrid: Rumagraf, S.A., 2000); José María García Marín, *El oficio público en Castilla durante la Baja Edad Media* (Sevilla: Escuela Gráfica Salesiana de Sevilla, 1974); and Marina Kleine, "Para la guarda de la poridad, del cuerpo y de la tierra del rey: los oficiales reales y la organización de la corte de Alfonso X," *Historia, instituciones, documentos* 35 (2008): 229-240. For information on Alfonso's economic policy and commercial regulations, see Joseph F. O'Callaghan, "Paths to Ruin," 41-67.

<sup>50</sup> Although the *Siete Partidas* were most likely not promulgated in Spain until 1348, they still represented Alfonso's ultimate goal to organize society. Joseph F. O'Callaghan, "Image and Reality: The King Creates His Kingdom," in *Emperor and Culture*, ed. Robert I. Burns, S.J., 14-32.

kingdom by demonstrating his authority over all political, economic, religious, and social interaction.

To complement his governmental and administrative agendas, Alfonso oversaw a prolific intellectual court that composed two historical chronicles, an impressive body of poetry, and a scientific corpus centered on astrology and astral magic. An intellectual or cultural program under the patronage of a king was inherently a political activity and an exercise of royal power. Each element of Alfonso's intellectual program acted as a separate mechanism to demonstrate and reinforce his authority. Through his patronage of histories, the *General estoria* and the *Estoria de España*, Alfonso demonstrated his command of the past and represented himself as the culmination of past events, or a part of the natural sequence of history from the founding of Spain until his reign. Through his patronage of poets and troubadours, Alfonso responded to the intellectual superiority of Muslim culture by adopting one of its elements—a literary court of poets—as his own and asserting Christianity's own cultural prestige.<sup>51</sup> In the process, Alfonso composed the *Cantigas de Santa María*, which contain hundreds of canticles dedicated to the Virgin Mary. In them, he depicted his close relationship with the mother of Christ and established his status as a religious authority backed by God's favor. Additionally, Alfonso oversaw an extensive scientific project that focused almost exclusively on astrological texts. Alfonso turned to astrology because the science offered concrete, politically useful mechanisms to address the specific needs of the king. His scientific project revealed his attitude toward natural philosophy and faith and demonstrated that Alfonso saw astrology as a tool that could centralize and legitimize royal authority by promoting conversion to uniform Christianity.

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<sup>51</sup> See Salma Khadra Jayyusi, "Andalusi Poetry: The Golden Period," in *The Legacy of Muslim Spain*, ed. Salma Khadra Jayyusi (Leiden: E.J. Brill, 1992), 317-366.

In medieval Iberia religion and politics were inseparable. Christian kings often promoted a religio-political worldview based on a distinction from the Muslim other. Alfonso's forefathers often used the reconquest as a way to create a distinctly Hispano-Christian identity that defined itself as the opposition to the Muslim occupation of Iberian territory.<sup>52</sup> In this context, Alfonso did not encourage religious conversion to bring his subjects salvation, but to validate his legitimacy as a Christian monarch over a multiconfessional population. Alfonso employed natural philosophy, or the study of God's creation, to promote a political ideology that was inherently tied to faith. Astrology allowed Alfonso to demonstrate his close relationship with God and to forge a self-identity as a source of divine knowledge and religious truth. As the source of divine knowledge, Alfonso asserted himself as the sole authority in temporal and spiritual affairs.

Alfonso's patronage of astrology enabled him to establish the connection between nature, knowledge, and the divine. He used this connection to argue for conversion to Christianity and, by extension, the recognition of his authority on the Iberian Peninsula. Catholicism, like government, represented a system of control that organized society and dictated how individuals viewed themselves as a part of God's creation.<sup>53</sup> Orthodox Christianity was a hierarchical arrangement of society, from monarchs—the vicars of God—down through the feudal lords to

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<sup>52</sup> For a discussion of the Iberian Christian worldview and their attitude towards the Muslim kingdom, see Ivy A. Corfis and Ray Harris-Northall, eds. *Medieval Iberia: Changing Societies and Cultures in Contact and Transition* (Rochester: Boydell & Brewer Ltd., 2007), especially the introduction and the chapter by Noel Fallows, "Against the Arabs: Propaganda and Paradox in Medieval Castile," 57-69; Ariel Guance, "To Die for Country, Land or Faith in Castilian Medieval Thought." *Journal of Medieval History* 24, 4 (1998): 313-332; Michael Frassetto and David R. Banks, eds. *Western Views of Islam in Medieval and Early Modern Europe* (New York: St. Martin's Press, 1999); John V. Tolan, *Saracens: Islam in the Medieval European Imagination* (New York: Columbia University Press, 2002).

<sup>53</sup> French, Roger and Andrew Cunningham, *Before Science: The Invention of the Friars' Natural Philosophy* (Brookfield: Ashgate Publishing Co., 1996), 187.

the peasantry. Each individual occupied a pre-ordained location in the natural order. To challenge this position was to challenge God's will. Controlling the Christian faith and religious practice was, therefore, very much a political action. Conversion to Christianity was a political goal that represented a powerful mechanism for the king to assert himself as the one, central authority within his borders. Among his other instruments of power, Alfonso consistently employed astrology to establish himself as *the* source of divine, Christian knowledge on the Iberian Peninsula and potentially beyond. In a multi-faith kingdom, religious conversion at the behest of the king was an acceptance of the monarch's political authority. In the context of medieval Castile, conversion to Christianity represented an affirmation of the king's religio-political agenda that urged assimilation to a single, simultaneously spiritual and political ideology that held Alfonso as the one true authority. Alfonso's natural philosophy, in which the natural world was inseparable from the divine, equated conversion to Christianity to his vision of a uniform Christian kingdom that recognized his right to rule.

Alfonso's patronage of astronomy and astrology, especially in the more technical aspects of the sciences, also responded directly to the cultural and intellectual traditions of the Ibero-Muslim kingdoms. The tenth and eleventh centuries were the peak of Hispano-Arab intellectual accomplishment.<sup>54</sup> Following the dissolution of the Cordoban caliphate in 1039, southern Spain divided into the taifa kingdoms, ten to twelve independent principalities. The taifa kings oversaw intellectual courts that produced the great works of al-Andalus, and scholars from all over

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<sup>54</sup> Vernet, Juan and Julio Samsó. "La ciencia." In *Historia de España Ramón Menéndez Pidal VIII: Los reinos de taifas, al-Andalus en el siglo XI*, ed. María Jesús Viguera Molíns, (Madrid: Espasa Calpe, S.A., 1999): 565-584.

Europe traveled to the Arab cities to learn their superior sciences.<sup>55</sup> Toledo became one of the most important centers of advanced astronomical and astrological learning. There the famous Azarquiel compiled an important set of astronomical tables and designed a number of instruments and devices. Cordoba, the “ornament of the world,” was the birthplace of Maimonides and Averroes, and produced its own astronomical tables, those of al-Jwarizmi.<sup>56</sup>

The astronomical and astrological manuscripts that Alfonso X chose to translate were, for a large part, Andalusian works written during the end of the caliphate and the beginning of the taifa period. By translating these works, and in fact adding new treatises to their scientific legacy, Alfonso replaced the taifas as centers of learning, especially of technical astrological knowledge. He portrayed himself, the Christian monarch, as the new source of advanced, astronomical science, ushering in a new intellectual age alongside the new political age of Christian dominance. Alfonso took the hallmark of Hispano-Arab caliphs and kings and enlisted it as a characteristic of his own reign, thereby using astrology to legitimize his authority, especially in Andalusia. Intellectual appropriation was a form of cultural appropriation. By taking over Muslim intellectual achievements, Alfonso effectively incorporated Muslim culture into mainstream Castilian culture to present himself as the head of both Christian and non-Christian populations.

Alfonso's expansive territory and multiconfessional kingdom presented significant challenges to his rule. Several groups of his subjects challenged his authority and plotted to usurp

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<sup>55</sup> Europeans travelled especially to Toledo. Many of the great translators and scholars of the 11<sup>th</sup> through 13<sup>th</sup> centuries learned Arabic in Toledo and studied the great texts of Judaeo-Muslim heritage. For example, see Roger French, “Foretelling the Future: Arabic Astrology and English Medicine in the Late Twelfth Century,” *Isis* 87, 3 (Sept., 1996): 453-480 and Charles Burnett, “A Group of Arabic-Latin Translators Working in Northern Spain in the Mid-12<sup>th</sup> Century,” *Journal of the Royal Asiatic Society of Great Britain and Ireland* 1 (1977): 62-108.

<sup>56</sup> Vernet, Juan and Julio Samsó. “La ciencia,” 565-584.

his throne. The Muslims of Granada and North Africa were a constant threat of invasion and rebellion. Alfonso recognized these issues and realized that his existing mechanisms of government could not successfully monitor his realm and maintain his authority. He responded by increasing the size and expanding the role of the royal administration, codifying law, and implementing an extensive intellectual and cultural project. Through these mechanisms, Alfonso sought to establish and assert his legitimacy, to quell rebellion, and to enlist the support of his subjects. Astrology played a major and unifying role in Alfonso's broad efforts to centralize royal authority over a large, diverse, and unruly kingdom.



## WHY ASTROLOGY?

Monarchs from antiquity through the early modern era invoked the authority of celestial bodies and their influences as elements of their political program. Princes and rulers, and indeed anyone who wished to assert authority, deployed astrology to establish, disseminate, and confirm the legitimacy of their rule over their subjects. Astrology offered a mechanism for rulers to connect in no uncertain terms their sovereignty to the unassailable authority of nature. The regular motions of stars and planets provided a framework for organizing history, which explained both when and why past events had occurred. History ceased to be the concatenation of chance events and became, instead, the realization of the natural order. A king who controlled astrological knowledge appropriated the authority to interpret nature and its meaning for the kingdom. Controlling the production of astrological knowledge— usually through selective patronage of astrologers— bolstered the monarch's political power. In the hands of expert practitioners, astrology could demonstrate that a king was destined to rule or that the monarch's political and dynastic program was the realization of natural events. More than just natural causes, heavenly bodies and their motions were signs that God used to communicate His plan. Therefore historico-astrological analysis became a means to reveal divine approval for the monarch. From at least the reign of Augustus, monarchs employed astrology in precisely these ways, to bolster their authority and legitimacy by demonstrating their connection to, and command of, the heavens.

In imperial Rome, Augustus, king in all but name, used astrology to assert that the divine and natural worlds predicted and therefore supported his rise to power.<sup>57</sup> He published his

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<sup>57</sup> For brief accounts of astrology in the Roman Empire, see Nicholas Campion *The Dawn of Astrology: A Cultural History of Western Astrology, The Ancient and Classical Worlds, Volume I*

horoscope along with the tale of his first astrological consultation, in which the astrologer was so astounded by the fortunate alignment of the planets that he threw himself at the feet of Octavian. In this story, astrology portrayed Augustus' rule as sanctioned, and even caused by, natural and divine forces beyond human control. Seven centuries later, astrology in the Islamic world acquired even greater political authority that allowed the newly founded 'Abbasid dynasty to legitimize their rise to power and their overthrow of the Umayyads.<sup>58</sup> The early 'Abbasid caliphs initiated an extensive translation movement that focused on astrological texts and used historico-astrological interpretation to connect their reign to the authority of nature and God. Unlike Augustus' ad hoc use of a single horoscope, the 'Abbasids used astrology systematically throughout their political program. By overseeing the translation of astrological texts, the early caliphs asserted themselves as the rightful successors to the diverse cultures of their empire and aimed to convert different religious groups to a single political ideology.<sup>59</sup> Augustus and the 'Abbasids alike used astrology to claim that their rule was the realization of natural events, but the caliphs transformed the science into a organized body of knowledge that could unite diverse peoples within a single political framework.

Medieval monarchs benefited from the translations during the twelfth century when the Islamic sciences, especially astrology, were made available in Latin. By the thirteenth century, astrology had become a concrete mechanism for monarchs to establish and express their authority by demonstrating a skillful mastery of the natural world. Frederick II, one of the most influential rulers of the early thirteenth century, employed astrology as a political tool in a way

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(New York: Continuum Books, 2008), 229-235; Tamsyn Barton, *Ancient Astrology* (New York: Routledge, 1994), 39-50; and Cristiana Sogno. "Astrology, Morality, the Emperor, and the Law in Firmicus Maternus' *Mathesis*." *Illinois Classical Studies*, 30 (2005): 165-176.

<sup>58</sup> Dimitri Gutas, *Greek Thought, Arabic Culture: the Graeco-Arabic Translation Movement in Baghdad and Early 'Abbasid Society* (London: Routledge, 1998),

<sup>59</sup> *Ibid.*, 29.

that marked an important shift in how monarchs related to and used the science.<sup>60</sup> Frederick extended the role of astrology in politics by portraying himself as both a skilled practitioner and learned patron of the science. He summoned at least three of the most well known astrologers to his court and entrusted them with significant political responsibilities, such as military and diplomatic counsel.<sup>61</sup> By employing astrologers, Frederick II appropriated their expertise as his own. An expert in the service of a king consigns his expertise to the command of the ruler, who, as a patron, becomes the source of the astrologer's knowledge and skill.<sup>62</sup> Frederick used his astrologers to inform his political decisions in order to correlate his actions and decisions with astrologically propitious events. Such correlations lent his actions an authority derived from both nature and God's will.

Beyond the political sphere, astrology had proved useful in addressing religious questions or interpreting a religion's past and present, and predicting its future.<sup>63</sup> The celestial bodies resided in the heavens near God and the angels and had been created by God to communicate His plans, His approval, or His displeasure. While observable by everybody, only skilled astrologers possessed the expertise to interpret those signs and reveal their true meaning. During the late twelfth and early thirteenth centuries, the Dominican Order developed a religious program that

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<sup>60</sup> For a description of Frederick II and astrology, see Nicholas Campion, *A History of Western Astrology: Volume II, the Medieval and Modern Worlds* (London: Continuum UK, 2009), 53-60.

<sup>61</sup> Scot appears to have travelled with his patron on diplomatic and military missions, Bonatti wrote extensively on the astrological rules of war, and Theodore of Antioch is said to have executed diplomatic missions to Arab rulers. Nicholas Campion, *History of Western Astrology*, 54-58 and Charles S.F. Burnett, "An Apocryphal Letter from the Arabic Philosopher al-Kindi to Theodore, Frederick II's Astrologer, Concerning Gog and Magog, The Enclosed Nations, and the Scourge of the Mongols," *Viator: Medieval & Renaissance Studies* 15 (1984): 151-167.

<sup>62</sup> Eric Ash, "Expertise and the Early Modern State," *Osiris* 1 (2010), 5.

<sup>63</sup> During the late fourteenth and early fifteenth centuries, cardinal Pierre d'Ailly used astrology to understand the fate of the Catholic Church during politically unstable times. See Laura Ackerman Smoller, *History, Prophecy, and the Stars: The Christian Astrology of Pierre D'Ailly, 1350-1420* (Princeton: Princeton University Press, 1994).

used natural philosophy to eliminate heresy and promote conversion to orthodox Christianity.<sup>64</sup> The Dominicans, who originated as a mobile body of preachers to battle the Cathar heresy, invoked the natural world as something to be studied in order to understand God and to teach His true design. A Dominican should study natural philosophy not for disinterested knowledge, but in order to draw on its properties as allegorical demonstrations of Christian law.<sup>65</sup> As the Cathar heresy eventually dissipated, the order extended its agenda to include conversion of pagans and infidels, in northeastern Europe, the Iberian Peninsula, and North Africa. Astrology, as the highest form of natural philosophy and the most easily associated with God, was a key element of the Dominicans' use of the natural world to argue the unquestionable truth of the Christian faith. Elements of the natural world, especially the stars and planets, possessed symbolic and allegorical meaning that, through proper study and interpretation, led to a true understanding of God.<sup>66</sup>

The Franciscan Order, founded in the same period as the Dominicans, also incorporated astrology into their religious program. Roger Bacon, a thirteenth-century Franciscan and natural philosopher, invoked the authority of the natural world as a mechanism to protect and spread the Christian faith, as he believed nature demonstrated how and why Christian doctrine should be followed.<sup>67</sup> In Bacon's *Opus Majus*, astrology became an extremely powerful science that could

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<sup>64</sup> French and Cunningham, *Before Science: The Invention of the Friars' Natural Philosophy*, especially 99-126.

<sup>65</sup> *Ibid.*, 179.

<sup>66</sup> *Ibid.*, 74.

<sup>67</sup> For discussions of Roger Bacon's use of astrology and natural philosophy, see J.D. North, "Astrology and the Fortunes of Churches," in *Stars, Minds, and Fate: Essays in Ancient and Medieval Cosmology* (London: The Hambledon Press, 1989), 67-70; Tomaz Mastnak, *Crusading Peace: Christendom, the Muslim World, and Western Political Order* (Berkeley: University of California Press, 2002), 196-208; Amanda Power, "Infideles in the *Opus Maius* of Roger Bacon," in *Travel and Travelers from Bede to Dampier*, eds. Geraldine Barnes and Gabrielle Singleton (Newcastle-upon-Tyne: Cambridge Scholars, 2005): 25-44.

predict and even cause the downfall of the nonbeliever. Astrology supplied undeniable proof of the nature of God and His plan. Bacon proposed replacing Scripture with natural philosophy as the instrument for converting infidels. According to Bacon, Muslims could deny the authority of the Christian Bible just as Christians denied the Quran, but no one could reject the authority of nature, God's creation.<sup>68</sup> To calculate the imminent downfall of Islam, Bacon studied great planetary conjunctions to reveal God's plan for the future. The doctrine of great conjunctions offered simple procedures for mapping Scriptural events and the fortunes of religions based on cyclical patterns of planetary movements.<sup>69</sup> In Bacon's hands, astrology demonstrated that the Christian Church was destined to overcome Islam, and provided a mechanism to realize the elimination of nonbelievers by inspiring conversion to the one true faith.

By Alfonso's reign, astrology was embedded in medieval political and religious discourse in concrete and clear ways. When the Castilian monarch invoked astrology to legitimize his authority and promote religious conversion, he invoked a body of resources that had been developed by political and religious figures. Frederick II, as King of Sicily, Holy Roman Emperor, and King of Jerusalem after 1228, would have been particularly influential for Alfonso and the formation of his religio-political intellectual program. Frederick II was Alfonso's cousin and ruled until Alfonso was twenty-nine years old. The parallels between the two monarchs suggest how Alfonso interpreted Frederick II's success and how he followed his Hohenstaufen cousin's example. Both kings governed large non-Christian populations, oversaw extensive translation projects, and sought to control astrological expertise. Alfonso attempted to become Frederick II's successor to the Holy Roman crown by invoking their relation through the

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<sup>68</sup> Tomaz Mastnak, *Crusading Peace*, 200.

<sup>69</sup> J.D. North, "Astrology and the Fortune of Churches," 59-61.

Hohenstaufen line, an act which indicated that Alfonso was aware of his cousin's political success and took note of the mechanisms Frederick II used in his political program.

Unlike Alfonso, Frederick oversaw an intellectual court that produced works from all scientific and philosophical genres. Alfonso's decision to focus on astrological texts indicated that he believed astrology, in particular, was an effective tool to assert and legitimize his authority over a multi-faith kingdom, and that expertise in astral science was a vehicle for him to become Holy Roman Emperor. Alfonso's development was to see that astrology served both political and religious goals. He realized that he could build a complete political ideology around astrology that he could deploy in his efforts to establish his political authority through demonstrating his intellectual and religious authority. In his hands, astrology became the cornerstone of his entire program.

Alfonso learned from the Dominican Order how natural philosophy could be used as a tool to battle heresy and promote conversion. As a young man, he had already come into contact with important Dominican friars. In his *De mineralibus*, Albertus Magnus— one of the most remarkable Dominican natural philosophers— mentioned meeting “the son of the King of Castile” in Paris during the 1240s.<sup>70</sup> At home in Castile, Alfonso consistently employed Dominican friars as the *confesor del rey*, the individual in charge of the well-being of the king's soul.<sup>71</sup> Along with the royal doctor, the *confesor* enjoyed close company with the king in order to

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<sup>70</sup> With the help of Manuel González Jiménez, García Avilés concludes that Alfonso would have been in Paris around 1243-5. Alejandro García Avilés, “Alfonso X y la tradición de la magia astral,” in *El scriptorium alfonsí: de los libros de astrología a las “Cantigas de Santa María,”* eds. Jesús Montoya Martínez and Ana Domínguez Rodríguez (Editorial Compulense, S.A., Madrid, 1999): 83-103. Cited from his article “Alfonso X, Albumasar y la profecía del nacimiento de Cristo,” *Imafronte*, 8-9 (1992-3): 189-200.

<sup>71</sup> Friar Remondo de Losana was the *confesor* for Fernando III and, after the king's death, for Alfonso. After Remondo's death, Alfonso appointed Friar Rodrigo González, also a Dominican,

observe his actions and hear his confession.<sup>72</sup> The Dominicans, whose founder was from Aragón, were very active on the Iberian Peninsula during the thirteenth century. In collaboration with Jaime I of Aragón, they organized schools that taught Arabic language and sciences in Barcelona, Valencia, Játiva, and even across the Mediterranean in Tunisia.<sup>73</sup> In the 1260s, Jaime I helped Alfonso suppress the *mudéjar* revolt in Murcia, and afterwards they formed a similar school in the region. These schools enlisted Iberian Muslims to teach the friars both Arabic and natural philosophy in order to prepare them for missionary activity in Spain and Africa. The *studium general* of Latin and Arabic that Alfonso planned for Seville was probably for the same purpose. Alfonso, who employed Dominicans and had personal experience with their missionary schools, was aware of the order's use of natural philosophy and the power of astrology to promote religious conversion.

Alfonso turned to astrology because he recognized in it a concrete set of resources that addressed the specific challenges of his reign. He developed the connection between astrology, the heavens, and the divine as a mechanism to establish and demonstrate his religious and political authority. As an expert astrologer, Alfonso commanded complex, superior knowledge of the intricacies of God and the workings of His creation. Through mastery of astral science, Alfonso asserted his knowledge of God and justified his right to promote conversion of non-Christians to the one true faith. His efforts to control astrology took different forms, from translation to commissioning original texts and even the design and construction of astrological instruments. Through these various forms, Alfonso confronted the superior intellectual culture of

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as the new *confesor*. Jaime De Salazar y Acha, *La casa del Rey de Castilla y León en la Edad Media*, 471.

<sup>72</sup> Ibid., 227-229.

<sup>73</sup> José María Coll, "Escuela de lenguas orientales en los siglos XIII y XIV (periodo raymundiano)," *Balmesiana Barcelona* XVIII (Jan.-July, 1944): 115-138.

Judaeo-Muslim tradition, appropriated it as his own domain, and declared his right to rule over a geographically large and religiously diverse kingdom. Alfonso consciously fashioned his image as a pious, learned king who had an intimate understanding of God and who could interpret the stars and planets to discover His will and plan for mankind.



## ALFONSO X AND ASTROLOGY

### ASTROLOGICAL ALLEGORY IN THE *SETENARIO*

The *Setenario* is the key to understanding Alfonso's approach to kingship, faith, and astrology. One of the most personal texts of the Alfonsine corpus, the *Setenario* reveals what Alfonso considered proper kingship and how his ideal monarch drew on learning, natural philosophy, and astrology to redefine the role of an Iberian Christian ruler. Past rulers, such as Fernando III, relied on military reconquest and the defeat of the Muslim enemy to legitimize their reign and assert their authority.<sup>74</sup> Alfonso, however, could not emulate his predecessors and instead refashioned the image of proper kingship. In the *Setenario*, he described the specific skills a ruler needed in order to confront the religious, political, and demographic issues of thirteenth-century Castile. For Alfonso, the learned king possessed a superior understanding of God and how He manifested Himself in the natural world. A monarch should employ this knowledge to achieve a specific political goal: convert all subjects to uniform, orthodox Christianity. Through a command of the natural world, God's creation, Alfonso asserted his role as the protector of Christian worship. He enlisted astrology to legitimize his self-fashioned image as a learned, Christian king. This theory of kingship connected the monarch to the natural world, especially the planets and the stars, as a way to align royal power with the irrefutable authority of

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<sup>74</sup> See, for example, the chapters of the book Fernando III wrote for his sons: XXVIII Del abastamiento que el rey debe tener para las sus guerras; XXIX De las gentes que el rey no debe llevar a las sus guerras.; XXXI De la ordenanza y regimiento que el rey debe haber con sus enemigos; XXXII Que cuando el rey hubiere de hacer entrada a otro reino, o a conquistar alguna tierra, que vaya poderosamente; XXXIII En que el rey no debe llevar a la su conquista compañías concegiles si no fueren escogidos; XXXIV En que el rey no consienta en el tiempo de las sus guerras comprar viandas a regatonería.; XXXV En que el rey ordene porque el sueldo sea bien pagado a sus compañías. John K Walsh, *El libro de los doce sabios o Tractado a la nobleza y lealtad* [ca. 1237] (Madrid: Real Academia Española de la Lengua, 1975).

the celestial bodies and the divine. How and why Alfonso enlisted the stars and planets within the *Setenario* demonstrate astrology's political instrumentality.

The structure and audience of the *Setenario* act as both an introduction to the text and an example of Alfonso's approach to kingship, knowledge, and astrology. Alfonso wrote the *Setenario* as a mirror of princes, intending that it "be taken by later kings as treasure, and as the greatest advice that could be taken, and for the greatest wisdom, in which they would always see themselves as in a mirror."<sup>75</sup> The *Setenario* contained such valuable information for a ruler that Alfonso specifically identified the text in his will to his successor, Sancho IV.<sup>76</sup> A Castilian monarch should fashion himself after the image of a monarch that Alfonso crafted through the one hundred and eight *leyes*, or laws, of the *Setenario*. Each law centers on the number seven and lists either seven examples or qualities of the topic at hand. In the medieval period, the number seven possessed particular philosophical and spiritual meaning. It represented universality, for it encompassed all things: the seven days of Creation, seven deadly sins, seven sacraments, seven liberal arts, seven planets, seven Pillars of Wisdom, and many other examples.<sup>77</sup> Seven was deeply embedded in Scripture, in both the Old and New Testaments, and Alfonso's focus on the number indicates his desire to draw on symbolic, spiritual knowledge that tied the natural world

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<sup>75</sup> "...que touyese él e los otros rreyes que después dél viniesen por tesoro e por mayor e meior conseio que otro que pudiessen tomar, e por mayor seso, en que sse viessen ssienpre commo en espeio." Alfonso X, *Setenario*, ed. Kenneth H. Vanderford (Buenos Aires: Instituto de Filología, 1945), 25.

<sup>76</sup> "Otrosi, mandamos a aquel que lo nuestro heredare, el libro Setenario que nos fezimos. Mandamosle, otrosi, lo que tenemos en Toledo, que nos tomaron, quando Dios quisiere que lo cobremos nos o aquel que lo nuestro heredare, ca son cosas muy ricas e muy nobles que pertenescen a los reyes." From the "Testamento de Alfonso X, 1284-1-21 Sevilla," Juan Torres Fontes, *Documentos de Alfonso X el Sabio* (Compobell, S.L. Murcia, 2008), 346.

<sup>77</sup> For a full discussion of the significance of the number seven, see Annemarie Schimmel, "The Pillars of Wisdom," *The Mystery of Numbers* (Oxford: Oxford University Press, 1993): 127-155.

to God.<sup>78</sup> Throughout the *Setenario*, the symbolism of the number seven reinforced Alfonso's claim that he possessed secret knowledge of God and the workings of His creation.

In the opening passages of the *Setenario*, Alfonso established the fundamental characteristics of a proper monarch by naming the gifts God bestowed on him. These gifts, which center on knowledge and piety, demonstrate the inseparability of learning from faith and how Alfonso drew on this connection as a source of royal legitimacy:

...[Alfonso], whose name God, through His mercy, wanted to begin with A and end in O, in which there are seven letters, according to the language of Spain, similar to His name. Through these seven letters, the Holy Spirit sent over me seven gifts, that are these: spirit of knowledge, spirit of *entendimiento*, spirit of counsel, spirit of fortitude, spirit of wisdom, spirit of piety, spirit of the fear of God. With which He enlightened my *entendimiento* and my will, so that I can know those things that were in His service and understand what most pleases Him.<sup>79</sup>

Alpha and omega, the beginning and the end, represent that God is eternal and that He has the power to begin and end all things.<sup>80</sup> By comparing his name to this scriptural phrase, Alfonso drew a parallel between his power and the ultimate power of God. Through His mercy, God endowed Alfonso with seven gifts that included knowledge, wisdom, and, most importantly, *entendimiento*, which translates to "understanding" or "the ability to reason." *Entendimiento*

<sup>78</sup> For example, the seven feasts, sevenfold sacrifices, seven eyes of the Lord, seven gifts of the Holy Spirit. Cain's murder will be avenged seven times, there are seven steps leading to Solomon's Temple, seven trumpets will usher in the Day of Judgment, etc. Schimmel, "The Pillars of Wisdom," 133-5.

<sup>79</sup> "...cuyo nonbre quiso Dios por la ssu merçet quiso que sse començasse en A e sse ffeneçiesse en O, en que ouyesse ssiete letras, ssegunt el lenguaie de Espanna, a ssemeiança del ssu nonbre. Por estas ssiete letras enbió ssobre nos los ssiete dones del Spíritu Ssanto, que sson éstos: spíritu de ssaber, spíritu de entendimiento, spíritu de conseio, spíritu de ffortaleza, spíritu de seso, spíritu de piedat, spíritu de temor de Dios. Con que nos alunbre nuestro entendimiento e nuestra uoluntad por que nos podamos saber aquellas cosas que ffueren a ssu sseruiçio et entender lo que a él más ploguiere." Alfonso X, *Setenario*, 7-8.

<sup>80</sup> There are many interpretations of this phrase in Christianity, but the *Setenario* states: "Onde la A con rrazón demuestra, ssegunt de ssuso dixiemos, que Dios es comienço, et la O ffin; non porque Dios ouo comienço en ssí nin puede sser acabado, mas porque él da comienço e acabamiento a todas las cosas que él ffizo." Alfonso X, *Setenario*, 5.

comes from God and links knowledge to faith. By virtue of possessing these qualities—knowledge, wisdom, reason, *entendimiento*, and faith—a monarch demonstrated and privileged his relationship with God.

In other laws throughout the *Setenario*, Alfonso focused on knowledge, *entendimiento*, and God, and connected them to the natural world. The eleventh law, “why I named this book *Setenario*,” linked Alfonso’s view of *entendimiento*, wisdom, and reason to nature. Alfonso explained that wisdom is the seven liberal arts, which showed how to “use celestial and terrestrial things,” and through the study of which “men learned to know God and all the things that He made, what they are in themselves and how they work.”<sup>81</sup> Through the liberal arts, an individual studied the natural world, or God’s creation, in order to learn to know God Himself.<sup>82</sup>

*Entendimiento* is the central theme of the *Setenario* and establishes a clear connection between learning, astrology, and God. *Entendimiento*, which gives man the ability to apply reason to nature in order to gain wisdom, itself stems from God, for “[He] is complete *entendimiento* and from Him all other spiritual and temporal things receive it.”<sup>83</sup> Alfonso listed the seven levels of *entendimiento* in hierarchical order starting with God and ending with the most basic knowledge of nature:

*Entendimiento* is a noble thing; because it makes known all the others, what each one is in itself. And even though this can’t be done except over natural things, and for this reason nature should come before *entendimiento*, but it’s nobility surpasses all the others and shows what they are and how they work. For this reason, the

<sup>81</sup> “...e obrar dellas ssegunt conuiniese, tan bien en las celestiales commo en las terrenales.” Vanderford, *Setenario*, 29. “Onde por estos ssiete ssaberes a que llaman artes ssopieron los omnes connosçer a Dios e a todas las cosas que él ffizo, quáles sson en ssí e cómmo obran.” Alfonso X, *Setenario*, 39.

<sup>82</sup> In the *Setenario*, knowledge and faith are inseparable and interdependent. The intimate bond between the two within this text, and indeed in the entire Alfonsine corpus, renders Alfonso’s intellectual program anything but secular humanism.

<sup>83</sup> “...Dios es entendimiento conplido e dél lo rreçiben todas las otras cosas spirituales e tenporales.” Alfonso X, *Setenario*, 38.

philosophers advanced it and put it first, before nature. And [the philosophers] divided it in seven parts. Where the first is God, who is Himself and was never made but made all things. And the second is the movement that moves the ninth sky and makes all the others move. And the third is the movements of the celestial bodies, like the skies and the stars. The fourth is what gives forms to the created things, why each one is seen and known as it is. The fifth is what man earns through wisdom, taking knowledge from nature. The sixth is that which man learns from the sages before they leave the material [*entendimiento*]. The seventh is material *entendimiento*, which is born with man in the beginning and makes him understand, through nature, the meaning of everything according to what is necessary for nature.<sup>84</sup>

Here, Alfonso descended the levels of *entendimiento* from the highest to the lowest, with God representing the first and most noble. To find God, an individual had to ascend the levels of learning, through knowledge of nature, the books of wise men, and, finally, through astrology.<sup>85</sup> The two levels that preceded *entendimiento* of God are the movements of celestial spheres and bodies, or, astrology. An understanding of the stars and planets was the highest, most noble natural knowledge, and closest to God. Astrology, more so than any other science, revealed the

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<sup>84</sup> “El entendimiento es noble cosa; ca él ffazer connosçer todas las otras, cada vna cuál es en ssí. Et como quier que esto non pueda ffazer ssinon sobre las cosas que es naturalmiente en alguna manera, e segunt esta rrazón la natura deuya ante sser puesta que él, pero la su nobleza pasa todas las cosas e muestra cuál es en ssí e cómmo obra vada vna. Et por eso lo adelantaron los philósophos e lo pusieron primeramiento que la natura. Et partiéronlo [los philósophos] en ssiete partes. Onde el primero es Dios, que es él en ssí e nunca ffué ffecho e ffaz sser todas las cosas. Et por el ssegundo es la virtud del mouimiento que mueue el çielo noueno et ffaz mouer todos los otros. El terçero es de los mouimientos de los cuerpos celestiales assí commo los çielos e las estrellas. El quarto es que da las fformas a las cosas criadas, por que sson vistas e connosçidas cada vna cuál es. El quinto es que gana omne por ssabiduría, ssacando el saber de la natura. El ssesto es el que aprende omne de los ssaberes ante que salgan de la materia. El seteno es entendimiento material, que nasce con el omne en el comienço e le ffaze entender por natura qué es aquello ssegunt quell conuyene por natura.” Alfonso X, *Setenario*, 26.

<sup>85</sup> Level of ascent towards an understanding of or communion with God were common in mystical Islamic, Jewish, and Christian traditions. For preliminary studies, see: Michael A. Sells, ed. and trans., *Early Islamic Mysticism: Sufi, Qur'an, Miraj, Poetic and Theological Writings* (New York: Paulist Press, 1996); Gershom Scholem, *Major Trends in Jewish Mysticism* (New York: Schocken Books, 1971); and Bernard McGinn, *The Essential Writings of Christian Mysticism* (New York: Modern Library, 2006), especially the excerpts from Bonaventure's *The Mind's Journey into God*, pages. 162-169. Bonaventure visited Alfonso's court during the 1260s, and translated his *Libro de la escala de Mahoma*, the tales of Muhammad's ascent into heaven, into French. Procter, *Alfonso X of Castile*, 127-129.

nature of God. A mastery of astral science led a proper understanding of the Lord, His plan, and how He should be worshipped. The seven levels of *entendimiento* established the spiritual nature of astrology and its ability to reveal knowledge of the divine.

Since the levels of *entendimiento* progressed through scholarly study and astrological knowledge to arrive at an understanding of God, Alfonso asserted that all faiths that deviated from orthodox Christianity stemmed from ignorance and poor understanding. His definition of a sect explained how an intellectual program that focused on astral science could promote conversion. According to Alfonso, individuals who believed incorrectly, or who observed the wrong faith, would convert to proper Christianity if they acquired proper *entendimiento*. He defined sect as:

...something departed from another. Those who believe in lengthy things, and become bored with the length of them, and separate into a faction when they understand that it will satisfy their poor *entendimiento*. And such a belief is called a sect.<sup>86</sup>

Alfonso explained that unorthodox belief is the result of poor *entendimiento*, which in turn meant that proper education would lead to recognition of the true faith. Learning, especially of astrological principles, revealed the nature of God and became a concrete mechanism to lead Jews, Muslims, and heterodox Christians away from their misguided faiths.

Astrology's particular ability to reveal divine knowledge made it a uniquely powerful mechanism to promote religious conversion. In the *Setenario*, Alfonso explained that God created the natural world in order to show Himself to mankind. The celestial bodies, which resided in the heavens, therefore revealed God's word and His plan for humanity. In law thirty-

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<sup>86</sup> "Secta tanto quiere dezir commo cosa departida de otra. Et por ende aquellos que creen las cosas luengas e enoiáuanse de la longura dellas, et apartauan vna partida quanto entendían que podría abondar a su poco entendimiento. Et atal crença como ésta llaman ssecta." Alfonso X, *Setenario*, 47.

four, “on the divisions of the signs” of the zodiac, Alfonso explained how and why he planned to use astrology to promote conversion and uphold proper Christian worship:

Where in all these ways that we have mentioned, men walked in error, looking for God and wanting to know Him.... But God, who made the world of nothing, not because he had to, but in order to show His creation the strength of His power, and His wisdom, and His good will; wanting them to discover the world and to illuminate their hearts, which were blind and dark of *entendimiento* and wisdom. And he also wanted them to understand and to know who He was in Himself, and what works He did and could do, and the goodness of His works, and that He wanted to keep working, as I will show now. And not only through the old law, nor through the sayings of the sages and prophets, but also according to the nature of the skies and other spiritual things, I want to prove that our holy Faith is the correct law and true belief, and there was never another from the beginning of the time, nor will there be until the end.<sup>87</sup>

According to Alfonso, God created the natural world to communicate His characteristics and His will to man. The stars, planets, and “nature of the skies” were signs that revealed the nature of God, His plan, and His wishes for humanity. Arguments of faith no longer relied on scriptural interpretation, but were supported and legitimized by proof from the natural world. Alfonso saw in astrology, with its concrete, observable motions and patterns, a useful instrument to realize his religio-political goal and promote uniform Christian observance. The planets and stars were visible, ubiquitous signs of God’s will and plan. Interpretation of these commonly accessible and accepted signs depended on the expert astrologer. As patron of the astrologers, the experts, Alfonso could control the interpretations to ensure that they conformed to his political program.

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<sup>87</sup> “Onde en todas estas maneras que auemos dichas andauan los omnes errados, buscando Dios e queriéndol connoçer.... Mas Dios, que ffizo el mundo de nada, non porque él lo ouyese mester, mas por mostrar a ssus criaturas quamanno era el ssu poder e el su saber e la ssu buena voluntad, quísosse descubrir al mundo e alunbrar los coraçones que eran çiegos en tiniebras de entendimiento e de sseso. Et quiso otrossí que entendiesen e conoçcienssen quién era él en ssí e qué obras ffazía e podía ffazer, et a qué tenía pro lo que él auya obrado e que obraua e que quería obrar adelante, ssegunt mostraremos agora. Et non tan ssolamiente por la ley vieia nin por los dichos de los ssabios e de las prophetas, mas aun ssegunt natura de los çielos e de las otras cosas spirituales, queremos prouar que la nuestra ssanta Ffe es ley derecha e crençia verdadera, e non otra ninguna que ffuesse desde el comienço del mundo nin sserá ffecha ffasta la ffin.” Alfonso X, *Setenario*, 65.

In the *Setenario*, Alfonso's view of astrology connected the divine to the political, meaning that astral science was a mechanism that allowed a monarch to enlist spiritual knowledge for political advantage. Control of astrological knowledge was in itself a political act. Throughout the *Setenario*, Alfonso asserted his right to interpret the stars and planets as signs from God. In later passages, Alfonso developed the same connection between celestial bodies and Christian faith, and extended the significance by explaining how God created these analogies between the stars and Scripture in order to explain His plan. God's acts were intentional, and meant to show humanity the holy law:

...that He put the stars because they light the earth and separate light from darkness, and day from night, it is understood again that the twelve apostles illuminate the world, making men know God truly through law, and [making them] leave their errors in which those of other sects walked. Therefore, Our Lord Jesus Christ called them the light of the world.... Where those twelve apostles were the twelve true signs that appear in the sky and illuminate the world.<sup>88</sup>

God created the stars as signs to spread His message and His plan, just as He created the apostles to spread the gospel of Jesus Christ. By establishing God's intent to embed the celestial spheres with spiritual meaning, Alfonso used astrology to promote a single Christian faith. Astrology revealed the relationship between nature and Christianity by showing that the heavens conformed to the model contained in the New Testament, not the Hebrew Bible or Qur'an. For Alfonso, the "nature of the skies" embodied the concepts and beliefs developed in the Christian Bible, a function of astrology that made it a particularly useful political tool.

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<sup>88</sup> "...que puso las estrellas por que luziessen ssobre la tierra e departiessen la luz de las tiniebras e el día de la noche, sse entiende otrosí que los doze apóstoles que alunbraron el mundo, ffaziendo a los omnes connosçer a Dios uerdadero por ley e dexar las erranças en que andauan de las otras ssectas. Et por esso les dixo Nuestro Ssennor Ihesu Cristo que eran luz del mundo.... Onde aquellos doze apóstoles ffueron los doze ssignos uerdaderos que parescen en el çielo y alunbran la tierra e departen la luz de las tiniebras e el día de la noche." Alfonso X, *Setenario*, 115-116.



When Alfonso invoked astrological principles to describe Christian doctrine, he simultaneously asserted his superior ability to decode God's signs and strove to achieve his political agenda. Throughout the *Setenario*, Alfonso used allegorical interpretations of the natural world to define both the true religion and the true astrology. He draws connections between celestial bodies and doctrine to supplement Scripture:

These twelve signs that we have mentioned, according to spiritual *entendimiento* are these properties that are in the Father and the Son and the Holy Spirit, that are three persons in one God. And according to the temporal [*entendimiento*], as Saint John the Evangelist said, that as these twelve signs show the truth of the seven planets, so the twelve apostles show the virtue of the seven sacraments of Jesus Christ, which were [arranged] by the Holy Church against the seven sins that men commit....<sup>89</sup>

Here the signs of the zodiac and planets possess a spiritual meaning that validate the truth of Christianity. They reveal the nature of the Trinity and complement the words of John the Evangelist. Even the basic astrological framework and the arrangement of the stars, distinct from any interpretation of their terrestrial influences, demonstrated Christian principles. Alfonso used astrology to align the one true faith with the visible patterns and obvious truths of the natural world.

Throughout the laws of the *Setenario*, Alfonso focused on the nature of Jesus and His relationship to God. By describing Jesus based on an image of the celestial sphere, Alfonso used allegorical interpretations of astrology to demonstrate that Christian doctrine was written in the skies. In twenty-seven laws, Alfonso analyzed elements of the natural world to expound the true

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<sup>89</sup> "Estos doze ssignos que auemos dicho, segunt el entendimiento spiritual, son estas propiedades que ha en el Padre e en el Ffijo e en el Spíritu Santo, que son tres personas e vn Dios. E segunt el tenporal, son los doze apóstoles, así commo dixo Sant Johán euangelista; que assí commo estos doze signos muestran la uerdad de las vii planetas, assí los xii apóstoles muestran la uertud de los vii sacramentos de Ihesu Cristo, que ffueron puestos e ordenados en Santa Eglesia contra los vii peccados que los omnes fazen...." Alfonso X, *Setenario*, 113.

God and how to worship Him.<sup>90</sup> He repeatedly invoked astrological principles to describe proper Christian doctrine, either through the qualities of planets or the zodiacal constellations. Fourteen of these laws focus on Jesus Christ and His relationship to God. Alfonso's concern with the Christian Messiah demonstrated his goal to establish the proper understanding of the Son of God. The nature of Jesus as divine and human caused debate among Christians, led to heretical interpretations of Scripture, and represented one of the major divisions between Christianity and the other two monotheisms.<sup>91</sup> Only through recognizing the true nature of Christ could an individual properly worship God. Alfonso's focus on defining the relationship between Jesus and God, and upholding the Trinity, indicate his goal to determine proper worship through astrology.

In the fourteen laws that address the nature of Christ, Alfonso enlisted the visual representation of constellations to explain the main qualities of the Son of God. In the passage on the constellation Gemini, he used the image of the twins to explain the oneness of the Father and the Son:

Gemini was the third sign, that means 'two bodies joined in one, that are never parted.' And this refers to Jesus Christ, who was joined with the Father in one in seven ways: that they are three persons in name; that they are all one in power and deed; that they cannot be parted; that their work is double; that they have two faces that look at what has passed and what is to come; they have two forces and one virtue; that they always work in all parts. And all of this Jesus Christ has in himself completely. Because He received form from God in Himself, making Him in the body of Saint Mary.<sup>92</sup>

<sup>90</sup> Laws 33 and 43-68 use natural philosophy to describe God. Of these, laws 33 and 47-68 address celestial bodies.

<sup>91</sup> Spain often suffered from adoptionist heresies, a minority Christian belief that God adopted Jesus at his baptism. Claudio Sánchez Albornoz "Sensibilidad religiosa," in *España, un enigma histórico: tomo I* (Buenos Aires: Editorial Sudamericana, 1962), 344-6.

<sup>92</sup> "Gémini era el tercero signo, que quier dezir commo dos cuerpos ayundados en vno que nunca sse parten. Et esto a ssignifficança de Ihesu Cristo, que era ayuntado con el Padre en vno en ssiete maneras: que sson tres perssonas en nonbre; que es todo vna cosa en poder e en obra; que non sse pueden partir; que la ssu obra es doblada; que han dos ffazes que catan a lo que es pasado e a lo que ha de venir; que han dos ffuerças e vna uertud; que ssienpre obran a todas

According to Alfonso, the constellation Gemini demonstrated the relationship of two parts of the Trinity, God and Jesus. Through an analogy between the celestial twins and God and His son, Alfonso established that Jesus was divine not because He was a separate divinity, but because He was God Himself. Allegorical accounts of astrological bodies therefore explained Christian doctrine, which here reconciles the idea of a divine Son with monotheism. Alfonso used astrology to depict orthodox Christian doctrine in order to encourage conversion to a uniform Christian faith.

As a mirror of princes, the *Setenario* contains invaluable insight into Alfonso as a monarch, the role of learning in his rule, and the place of astrology in his political agenda. The collection of laws demonstrate the inseparability of learning, the natural world, and God, and depict study as a religious act that leads to an understanding of the divine. Alfonso found the connection between God, the natural world, and knowledge specifically and politically useful. The *Setenario* established the importance of natural philosophy in the exercise of kingship. Absent from the *Setenario* is any effort to ground authority and rule in military successes. Instead, Alfonso laid out an intellectual project that based religious, political, and intellectual authority in the control of expertise and natural philosophy. According to Alfonso, a monarch should enlist the qualities of the natural world to assert himself as a source of superior knowledge of God and, by upholding proper Christian doctrine, centralize his authority. Alfonso, in an extensive kingdom with diverse populations, reshaped the role of Castilian monarch and drew on learning, astrology, and religio-political assimilation to a single faith that celebrated him as its protector.

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partes. Et todo esto ouo en ssí Ihesu Cristo conplidamientre. Que él rreçibió fforma de Dios en ssí, fformándose en el cuerpo de Ssanta María.” Alfonso X, *Setenario*, 94-95.

ASTROLOGICAL HISTORY IN THE *LIBRO DE LAS CRUZES* AND *TABLAS ALFONSÍES*

The connection between God and nature made astrology the highest form of natural philosophy and invested it with clear political utility. Alfonso deployed astrology to accomplish several specific, political goals in order to centralize and legitimize his rule. As a patron of astrology, he confronted the superior Muslim intellectual culture, asserted himself as successor to the scientific prestige of al-Andalus, and consolidated his power by promoting religious conversion. As an element of his religio-political program, Alfonso employed astrology to explain history and reveal how the patterns of Islamic conquest and Christian reconquest were caused by celestial events. Since the eighth century, planetary conjunctions caused Islam to flourish on the Iberian Peninsula. Centuries later, the planets had realigned to favor Christianity, leading to the dissolution of the Cordoban caliphate in 1039, the reconquest of Toledo in 1085, and the occupation of Andalusia in the thirteenth century. The success of Alfonso's astrological analysis of the history of the Iberian Peninsula gave his astrological interpretation of the present greater authority. Alfonso produced astrological texts as a means to identify key celestial events, interpret their significance, and, in turn, establish the proper astrological interpretation of the past, present, and future.<sup>93</sup> In the *Libro de las cruces* and the *Tablas alfonsíes*, Alfonso used astrological interpretations of the past to depict himself as the legitimate intellectual and political successor to al-Andalus. Astrological history was a means for Alfonso to establish the imminent

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<sup>93</sup> Although the *Libro de las cruces* was not an original work, but a translation, Alfonso still asserts his ownership of its contents. During the translation project, Alfonso's scholars edited and adapted the texts, often Christianizing them or incorporating passages from other texts as well. The texts were very much realizations of Alfonso's particular vision, and he was intimately involved in the translation process. For more information on how Alfonso participated as a patron, see page 55 of this thesis.

downfall of Islam on the Iberian Peninsula and to connect himself to the subsequent advancement and glory of Christian faith and culture.

Through the translation of the *Libro de las cruces*, Alfonso appropriated judicial astrology as a resource and a guide for political decisions. An elaborately decorated translation of an eleventh-century Muslim text, the *Libro de las cruces* contains thousands of horoscopes on and guidelines for political, military, and economic predictions that explain how to interpret planetary movements at any moment and in any kingdom. The interpretations of celestial motions allowed Alfonso to take advantage of propitious times and to avoid inauspicious moments to engage in political acts. His patronage and possession of the *Libro de las cruces* instilled the idea that the king had remarkable understanding of the natural world that he used to inform his political decisions. The planetary conjunctions mentioned in the treatise reveal and predict when a subject or enemy will attempt regicide, when an enemy will attack, or when a subject in the king's audience will lie or tell the truth. Through the *Libro de las cruces*, Alfonso manifested his authority as a monarch by asserting his knowledge of the actions and intentions of his subjects and enemies. Translation of Arabic sources into Castilian was a methodical way for Alfonso to claim the works as his own, to indicate that he understood the contents and recognized them as particularly useful. In the process, he asserted his mastery of astral sciences and their power to predict political events, a skill often attributed to Muslim rulers throughout the *Estoria de Espanna*.<sup>94</sup> By translating the *Libro de las cruces*, Alfonso expropriated the framework that powerful Hispano-Arab rulers had used as a tool for his own political ends.

In the introductory chapters to the *Libro de las cruces*, Alfonso defined what made a people noble, recognized that the Muslims had dominated the West, and invoked astrology to

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<sup>94</sup> Menéndez Pidal, *Primera Crónica General*: Hercules, pages 8-11; Muhammad, 261-266; Abentumet, Abdelmon, and Almohadi, 658-9.

prove that their era of supremacy had ended. He explained that a people must master two things to be noble: laws that guide a people and govern their domain, and study of the sciences.<sup>95</sup> The influences of celestial bodies dictate these two qualities as well as all characteristics of a people:

And generally we find that the differences between one people and another correlates to the differences in the lands they live in, and the temperateness of the air, and the forces and influences that the earth and air receive from celestial bodies; that these things shape the gentleness or lack thereof of the bodies of men, in their forms; and also the differences in their spirits, and in their *entendimiento*, and their wisdom, and their deeds...<sup>96</sup>

Alfonso established a direct link between astrological influences and the characteristics, fortunes, and achievements of a people. The same passage names the most noble populations of the past, those of Asia, India, Babilonia, and Rome, as well as the least impressive cultures, the Ethiopians and the Turks.<sup>97</sup> Alfonso correlated the fortunes and accomplishments of these kingdoms to significant celestial events, using those correlations to explain the kingdoms' successes and failures. He used that analysis to conclude that "in our time, we find that the Arabs and those that they have conquered... according to the reasons that we have said, are the most noble people in

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<sup>95</sup> "Digo que la razon por que dizen de los pueblos et de las yentes que fulana yente es mas nobla que fulana otra son dos cosas: La una es que ayan decietos et leyes et que se guien por sennorio et per regnado, et la otra es que ayan scientias et saberes. E aquellos en que se cumplen estas dos cosas que se guien por sennorio et por rey, et que se entrametan de estudiar en las scientias et en los saberes, et ouieren scientia et sennorio, por derecho ellos seran llamados nobles." Alfonso X, *Libro de las cruces*, ed. Lloyd A. Kasten and Lawrence B. Kiddle (Madrid: Instituto Miguel de Cervantes, 1961), 6.

<sup>96</sup> "Et general ment fallamos las differentias entre una yente et otra segunt las diferencias de las tierras en que moran, et segunt la temprança et la destemprança de los ayres, et segunde lo que recibe la tierra et el ayre de las fuerças et de los fechos de los cuerpos celestiales, que segunde estas cosas parecen las aposturas et las desaposturas en los cuerpos de los omnes et en sus formas, et parecen otrossi las differentias en sus espiritos, et en sus entendementos, et en sus sesos, et en sus obras, et en sus fechos, que generalment todos los omnes, en quanto es la natura humana, unos son. Mas a diferencia entre ellos segunde las razones sobredichas." Alfonso X, *Libro de las cruces*, 9.

<sup>97</sup> Alfonso X, *Libro de las cruces*, pages 6-9.

the Occident.”<sup>98</sup> The preeminence of the Iberian Muslims was, like the fortunes of all peoples, the result of the celestial bodies.

In the passage following the discussion of Muslim cultural superiority, Alfonso identified specific planetary conjunctions that indicated the imminent rise of Christian power and culture. When Alfonso recognized the history of Muslim dominance in the West, he did so not to celebrate or accept Islamic culture, but rather as a way to confront it and explain its downfall:

And this we see manifested and true in our time, that when the conjunctions moved to the earthy triplicity, it gave power to the kingdoms of the Romans and the Christians, and weakened the kingdoms of the Arabs, and they suffered bad fortune and many great damages, and the greater power appeared in the Christians; and this conjunction was in the year 397 of the era of the Arabs, and this movement was in the sign of Virgo. And since then the weakening of the kingdom of the Arabs, those of the East, began; and those of the West, both the Berbers and the Christians, gained power; because they are the peoples who have populated the West in our time. And after this, the conjunction occurred again in the year 459 of the era of the Arabs, and their kingdom weakened in the East, and many damages and bad things occurred, and their justice lessened, and their law weakened, the Romans and those of the West became stronger, and experienced good luck, and guided themselves with justice, and exalted their law.<sup>99</sup>

<sup>98</sup> “Et en este nuestro tyempo fallamos que los alaraues et los que con ellos se tyenen conquirieron la tierra de Persia et de Babilonia et lo que se tyene con ellas adarredor. Pues segund estas razones que dixiemos ellos son la mas noble yente de la partida occidental del poblado en este nostro tyempo et los que son cerca dellos.” Alfonso X, *Libro de las cruces*, 9.

<sup>99</sup> Et esto ueemos lo manifesto et uerdadero en este nuestro tempo, que quando las coniunctiones se mudaron a la triplicitat tarrea, apoderaron se los regnos de los romanos et de los cristianos, et aflaueçieron los regnos de los alaraues et ouieron muchas ocasiones et muchas malandantias, et apareçio el mayor poder en los cristianos; et esta coniunction fue en el anno de ccclxxxvii de la era de los alaraues, et fue este mudamento al signo de Virgo. Et de estuençe compeço de enflaqueçer el regno de los alaraues et de los de la partida oriental, et apoderaron se los de la partida occidental, los de Berberia en una partida et los cristianos en otra partida, ca estos son los que tyenen la partida occidental poblada en este nuestro tyempo. Et de pos desto mudose la coniunction otra ueç, et fue el mudamento otrossi en la triplicitat tarrea, et esta otra coniunction fue en el anno de cccclviii de la era de los alaraues. Et estuençes se renouo el apoderamento de las significationes de la coniunction primera, et enflaquecio el regno de los alaraues en la partida oriental, et acaeçieron les muchas ocasiones et muchos dannos, et menguaron sus iusticias, et enflaqueçio su ley, et apoderaron se los romanos et los de la partida occidental, et ouieron muchas buenas andançias, et se mantouieron por iusticia et por derecho, et exalço se su ley.” Alfonso X, *Libro de las cruces*, 9-10.

Alfonso's astrological analysis found evidence for the Muslim decline in the regular motions of nature, the stars. Just as celestial influences led to the rise of Muslim culture, so they had signaled its end. The passage refers to the religio-political infighting of the Muslim empire that led to the breakdown of the Umayyad caliphate of Cordoba and the division of Islamo-Iberia into the taifa kingdoms.<sup>100</sup> In Alfonso's account, the decline of Muslim power and the success of Christian reconquest cease to be contingent, and become instead the predictable outcome of the natural order. Planetary conjunctions signaled, and even caused, the collapse of the Muslim empire and the rise of Christian supremacy.

Successful historical analysis enhanced astrology's authority both to interpret the present and predict the future. In the *Tablas alfonsíes*, Alfonso used astrology to declare that his reign, like those of great rulers before him, coincided with a celestial portent. According to Alfonso, "all eras that are clear... are begun with a sign that occurs, and the people of that nation value this sign," and so they use the year of that sign as the first year of their era.<sup>101</sup> The Greeks began their era with Alexander the Great, the Romans with Caesar, and the Arabs with Muhammad.<sup>102</sup> A similar portent indicated the beginning of the reign of Alfonso:

<sup>100</sup> Taifa kingdoms were independent principalities, either emirates or petty kingdoms, that developed after the fall of the Umayyad caliphate of Cordoba in 1039. The reference to the rise of Berbers locates the first conjunction in the early eleventh century when the Almoravids, a Berber-Muslim dynasty, emerged in North Africa and began to overthrow the taifa principalities of al-Andalus. For a more in-depth history of Muslim Andalusia, see Mahmoud Makki, "The Political History of al-Andalus (92/711-897/1492), *The Legacy of Muslim Spain*: 3-87.

<sup>101</sup> "Todas las heras que son magnifiestas en las naçiones e usadas antiguas y nuevas son començadas de algun acaezçimiento que aconçeio e preçiose la jente de aquella naçion del tal aconçeimiento, y llamole comienço de sus años y hasese quente del tal acaesçimiento porque dure la nombradia de aquel acaezçimiento y no se olvide por luengos tiempos." José Chabas and Bernard R. Goldstein, eds. *The Alfonsine Tables of Toledo* (Boston: Kluwer Academic Publications, 2003), 20-21.

<sup>102</sup> Los griegos començaron sus heras desde el Rey Alexandro... Otrosi los romanos tomaron por hera el año en que Çesar a reynar començo... Tambien los arabes tomaron por hera el año en que dixo Mahomat que hera propheta." Chabas and Goldstein, *The Alfonsine Tables of Toledo*, 21.



And we see that in our time a notable and honorable sign occurred, of equal esteem as all the earlier signs. And this is the reign of the King Don Alfonso, who added knowledge, wisdom, *entendimiento*, law, goodness, piety, and nobility to all the other wise kings. And for this reason we thought it good to begin the era in the year that this noble king began to reign, so that this era is used and revealed just as the other eras were used before it, so that the fame of this noble king will stay forever. ...and we named it the Alfonsine era.<sup>103</sup>

Alfonso established his legitimacy in explicit terms not only by comparing himself to past monarchs, but by declaring that the natural world proclaimed the authority and greatness that will earn him fame. Furthermore, the signs revealed that Alfonso X was a great monarch because he possessed more knowledge, wisdom, *entendimiento*, and piety than any king of the past. The planets and stars revealed that he alone commanded the skills needed to usher in a dominant Christian culture and faith.

The word used for sign in the *Tablas alfonsíes*, *acaecimiento*, appears in the *Setenario* and the *Estoria de Espanna* as astrological events created by God. When Alfonso stated that his reign was proclaimed by signs, he therefore referred to celestial events and used both nature and God to reinforce his legitimacy. The definition of *acaecimiento* in the *Setenario* appears in a passage on the natures of God, of which signs are one, "because He made them occur how He understands what is necessary according to what the people, over whom He wants the sign to occur, deserve."<sup>104</sup> These signs, which often manifest in the celestial spheres, therefore indicate God's intentions through the natural world. In the *Estoria de Espanna*, the account of Julius

<sup>103</sup> "E nos vemos que en este nuestro tiempo acaezçio notable acaezçimiento e honrado e de tanta estima como todos los antepassados. Y este es el reynado del señor Rey don Alonso que sobrepujo en saber, seso, y entendimiento, ley, bondad, piedad e noblesa a todos los reyes sabios. E por esto tovimos por bien de poner por comienço de hera el año en que començo a reynar este noble rey por cabsa que se use y manifieste esta hera ansi como se usaron y manifestaron las otras heras antes della porque dure et quede la nombradia deste noble rey para siempre. E posimos el comencamiento deste años sobredicho por comienço deste hera, e posimosle nombre la hera alfonsi." Chabas and Goldstein, *The Alfonsine Tables of Toledo*, 21.

<sup>104</sup> "Acaesçimiento es otrosí; ca él ffaze acaesçer las cosas commo entiende que conuyene segunt mereçimiento de aquellos ssobre qui quiere que acaescan." Alfonso X, *Setenario*, 39.

Caesar's death, Christ's birth, and Augustus' reign draw on the same *acaeçimiento*, the appearance of three suns in the sky that slowly moved into one.<sup>105</sup> The three celestial bodies were God's sign that after Julius Caesar's death, three men would try to take the throne, but only one, Octavian, would succeed; and that Jesus Christ would be born during Octavian's reign, and He was a part of the Trinity of the one God. Alfonso, by claiming that an *acaeçimiento* signaled his ascension to the throne, legitimized his authority over Castile and reinforced his ability to supersede Muslim intellectual culture. This legitimation was grounded in a portentous sign and linked his ascension to the irrefutable authority of nature and the divine.

In the *Libro de las cruces* and the *Tablas alfonsíes*, Alfonso used astrology to explain the political and military events of the past as the predictable consequences of the natural order. Celestial motions signaled the rise and fall of great civilizations from the Romans to the Arabs and Christians. The *Libro de las cruces* declared the imminent downfall of Islam while the *Tablas alfonsíes* proclaimed that Alfonso initiated a new era of Christian greatness. In both of these astrological texts, Alfonso identified the relevant celestial events and analyzed them. Through this process of selecting and interpreting the important events, Alfonso defined both the relevant astrological phenomena and the proper interpretation. By asserting his mastery of astrological knowledge, Alfonso aligned his political authority with the irrefutable patterns of natural events. As a part of his broader intellectual program, astrological history legitimized

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<sup>105</sup> "En aquel anno otrossi apareciero a los romanos tres soles a parte de oriente, et fueronse allegando poc a poco fasta que se ayuntaron et se fizieron un cuerpo et un sol; et departen desto las estorias que daua a entender dos cosas: lá una que ell emperio de Roma, que ouieran luego depues la muerte de Julio Cesar estos tres sennores: Lucio Antonio et Marcho Antonio et Octauiano...ca sabet que a la sazón que Julio Cesar murio et que Octauiano fue alçado por sennor de Roma...; la otra cosa et mayor que esta es que auie a nacer Ihesu Cristo en tiempo deste emperador Octauiano, et que se mostrarie en el mundo la Trinidat manifestemiente en una substancia et en un Dios." Menéndez Pidal, *Primera crónica general*, 97-98.

Alfonso's reign and ushered in a new age of *entendimiento* and scientific splendor for Christian Spain.

#### SPIRITUAL CONTEMPLATION IN THE *LIBRO DE LA OCHAVA ESPERA*

Astrology imposed a framework on time that explains the past, present, and future as the unfolding of God's plan. This framework, when applied to the past, made history a concrete, predictable series of events that followed a discoverable trajectory created by God. Knowing the course of His plan was key to knowing God. Astrology both explained history and communicated God's vision of the one true faith, Christianity. Alfonso used the natures of the skies, and their ability to reveal God's plan, as a means to promote uniform Christian faith. Alfonso's concept of pious, learned kingship meant that conversion to Christianity affirmed the king's political goal: acceptance of a single, spiritual and political ideology that followed the laws and decrees of the monarch.

In the *Libro de la ochava espera*, Alfonso described the constellations of the eighth sphere and asserted that study and contemplation of those constellations led to an intimate relationship with God. As the first treatise of the *Libros del saber de astronomia*, the *Libro de la ochava espera* established the parameters in which the technical material was to be read. It painted all astronomical study as a spiritual experiences and linked Alfonso's compendium of astronomical instruments to his broader political program.<sup>106</sup> Alfonso prefaced his technical

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<sup>106</sup> Historians tend to focus on the *Libros del saber de astronomia* and *Tablas alfonsíes* when they celebrate Alfonso's scientific achievements, ignoring the other treatises that more clearly possess astrological knowledge. For example, on page 24 in his biography of Alfonso, Ballesteros y Beretta admits he "must confess" that Alfonso was a devotee of astrology and not just astronomy. The two genres, however, were inseparable in the Alfonsine corpus. The

works with the *Libro de la ochava espera* in order to emphasize the religious aspect of his scientific project. Astrology was, for Alfonso, a Christian endeavor that he could use to encourage conversion and thereby legitimize his authority. Knowledge was not secular. Any inherent value stemmed from the religious or political agenda that deployed that knowledge.

According to Alfonso, the purpose of the *Libro de la ochava espera* was to divulge the secret knowledge of the divine embedded in the eighth sphere. The eighth sphere was the sphere of the fixed stars, the constellations, and was closest to the ninth sphere, where God resided.<sup>107</sup> Contemplation of the names, positions, and virtues of the constellations and stars of the eighth sphere brought a person closer to God by revealing how to praise, love, and fear Him:

And for all these reasons we should praise Him, and love and fear Him... And for this reason our King Don Alfonso, desiring that the great and marvelous virtues that God put in all the things that He made, that they were known and understood by learned men so that they could help themselves of them, because they praised, loved, and feared God. And seeing all of these reasons, we ordered this book translated and composed, which speaks of the virtues of the fixed stars that are in the figures of the eighth sphere, and we show, through contemplation and sight, in what manner they are made according to the ancient sages....<sup>108</sup>

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instruments and astronomical measurements were intimately tied to astrology, spiritual meaning, and Alfonso's religio-political program.

<sup>107</sup> "La espera del ochauo cielo es la primera en que a estrellas figuradas, et es la mas noble de todas las otras siete, de que fablaremos adelante, porque está mas cerca del noueno. Et la uertud que del rescibe, esta la parte por las otras, cada una segun que ell a menester, et á él conuiene. Esta espera es toda llena de estrellas ya grandes, et menores, et medianas. Et figurada de todas las figuras que fueron, et son, et seer podrán, et en cada una dellas a su uertud sigund la de Dios puso en aquella espera donde ellas son." Alfonso X, "Libro de la ochava espera," in *Libros del saber de astronomia*, ed. Manuel Rico y Sinobas (Madrid: Aguado, 1863-67), 1:11.

<sup>108</sup> "...Et por todas estas razones lo deuemos loar, et amar, et temer, loando la uertud de la su bondat, et amando la uertud del su bien fecho, et temiendo la uertud de so poder. Et por ende nos el Rey D. Alfonso sobredicho, cobdiciando que las grandes uertudes et marauillosas que Dios puso en las cosas que él fizó, que fuessen connoscidas et sabudas de los omes entendudos de manera que se podiessen aúdar dellas, porque Dios fuesse dellos loado, amado, et temido. Et catando todas estas razones mandamos trasladar et componer este libro, en que fabla de las uertudes de las estrellas fixas que son en las figuras del ochauo cielo, et mostramos de qué manera estan fechas por asmamiento et por uista segun dixeron los sábios antigos...." Alfonso X, "Libro de la ochava espera," 1:8.

Contemplation of the stars was a spiritual experience that revealed how to properly worship God. By articulating the relationship between the secrets of God and the physical configuration of the eighth sphere, Alfonso asserted that he already possessed true knowledge of God and assumed the role of mediator between his subjects and God.<sup>109</sup> As mediator between God and humanity, Alfonso portrayed himself as a learned king who truly understood the Lord, which in turn legitimized his role as Christian monarch and his right to define the true faith. As patron of astrology and astrologers, he became the arbiter of true astrological knowledge and the authority in learning. Given astrology's fundamental role in understanding God, such a position ensured that he was also the ultimate judge of knowledge about the divine. By controlling the production of astrological knowledge, Alfonso shaped the way God was understood.

Astrologers and wise men of the past—who according to Alfonso include “the sages who made the laws, especially the prophets, and also those who knew divinity and theology, which means knowledge of God”—agreed that there were “spirits very noble in *entendimiento* and virtue” that resided in the celestial spheres.<sup>110</sup> These spirits assumed the forms of constellations to communicate the secrets of God and His plan. They taught Adam how to live off the earth; they told Mary that she would birth Jesus Christ, the Savior; and they revealed to Saint John the

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<sup>109</sup> Alfonso X creates a similar identity for himself as a mediator between God and the people in the *Cantigas de Santa María*. For a description of how Alfonso X interacts with the Virgin Mary, and how he often adopts her role as divine mediator in the *Cantigas*, see George D. Greenia, “The Court of Alfonso X in Words and Pictures: the *Cantigas*,” in *Courtly Literature: culture and context*, 227-236. For a discussion on how Alfonso X used an intimate relationship with the Virgin Mary to achieve political goals, see Amy G. Remensnyder, “Marian Monarchy in Thirteenth-Century Castile,” in *The Experience of Power in Medieval Europe, 950-1250*, 253-270.

<sup>110</sup> “...es tambien porque tambien los que fablaron en naturas cuemo los estrelleros, cuemo los sábios que fizieron las lees, et sennaladamiente los prophetas, et dessi los que sopieron diuinidad et theología que quier dezir saber de Dios, et de las cosas spirituoales, todos se acordaron que en los cielos auia spíritos muy nobles de entendimiento et de uertud.” Alfonso X, “Libro de la ochava espera,” 1:17.

Book of Revelation, and how the heavens and the holy court were arranged.<sup>111</sup> By studying these spirits, their virtues, and how they affected terrestrial events, people learned of God:

And through this knowledge that men gained from the noble spirits, they knew many of the secrets of God, and of His nobility, and His power, and also of the organization of His court. And therefore they said and did many marvelous things, like prophesying what was to be good or bad in the world, and not just of the bodies of men while they were alive, but of their souls in the other world after they left the men....<sup>112</sup>

Alfonso linked the natures of celestial bodies to the noble spirits, or angels, that resided in the heavenly spheres with God. God gave both the constellations and the angels their virtues and decided how they influence terrestrial events. Astrological learning became a means of divine revelation, for the celestial spirits above—planets, constellations, and angels—revealed the virtues of God to the earth below, teaching the difference between good and evil, and explaining what happens to souls after death. The *Libro de la ochava espera* explains how to gain knowledge of the virtues and secrets of God through astrological study and contemplation.

The divine knowledge contained in the constellations justified the repeated calls to pause and contemplate the stars. Alfonso located and names every star in each constellation and then described the figure's virtues in obscure and mystical terms. Not only did he establish the relationship between the constellations and God, encouraging people to study astrology, but he also asserted his own expert knowledge when he used esoteric vocabulary to identify and

<sup>111</sup> "Et luego primeramente de Adan que quando fueron echados del parayso ell angel los mostró cuemo obrassen las tierras, et se siruiessen dellas et de las cosas que en ellas nasciessen....Et á la sancta María cuemo nasciera della Jesu-Christo el Saluador del mundo. Et á sanct Joan en ell Apocalipsi de cuemo era ordenado el cielo, et toda la corte de nuestro Sennor." Alfonso X, "Libro de la ochava espera," 1:17-18.

<sup>112</sup> "Et por estas connoscencias que los hombres ouieron con estos nobles spíritos, sopieron mucho de las poridades de Dios, et de la so nobleza, et del so poder, et otrossí del ordenamiento de la so corte. Et por esto dixerón, et fizieron muchas cosas marauillosas, assí cuemo prophetizar lo que auia á ser de uien ó de mal en el mundo, et non tan solamente á los querpos de los omes mientras eran uiuos, mas á las almas en ell otro mundo despues que salien de ellos...." Alfonso X, "Libro de la ochava espera," 1:17.

describe each star. The descriptions often focus on the strangeness of the figure, and assert that they must contain great, hidden meaning:

And for this reason the figure is very strange, in that the man wears no socks and between his legs is a snake, and for this reason it cannot be except that this figure has great virtue and action to he who contemplates it well.<sup>113</sup>

And again, a few passages later:

And therefore this great strangeness God did not give this figure its size just so that it was this way, but so that men could take *entendimiento* to know how to help themselves of celestial things, because they show themselves through their forms to those who contemplate them well, [and show] which virtues are in them, and what they are in deeds and influences.<sup>114</sup>

God created each constellation, in its specific arrangement, to encourage humans to study and contemplate them in an effort to know His secrets and virtues. In order to gain this knowledge, an individual must pause to consider the constellation's qualities, especially four: what the figure is, what it looks like, where it appears, and alongside what other things it appears.<sup>115</sup> Alfonso's knowledge of the constellations demonstrated his superior understanding of God himself. Astrology was a way of progressing in spiritual matters, which made astral science a mechanism to promote conversion to a particular faith.

When Alfonso described the constellations in the *Libro de la ochava espera*, he centered on the technical location and arrangement of the stars. His use of astrology was similar to that in the *Setenario*, but shifted the focus to the geometric configuration of the heavens. This shift

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<sup>113</sup> "Et por ende es la figura mucho estranna en traherla ome descalço entre las piernas acarón, et por ende non puede seer que non aya en esta figura gran uertud et obra á quien bien parare mientes." Alfonso X, "Libro de la ochava espera," 1:42.

<sup>114</sup> "Et por ende esta estrennedad tamanna non puso Dios en aquella figura por razon que fuesse assí, mas que tomassen los omes entendimiento pora saberse ayudar de las cosas celestiales, ca ellas en sí muestran por sus figuras al qui bien para mientes, qué uertudes an en sí, et quáles en de seer sus fechos et sus obras." Alfonso X, "Libro de la ochava espera," 1:52.

<sup>115</sup> "Et por ende todo ome entendudo deue catar quatro cosas en el fecho destas figuras. La primera de qué es. La segunda la semeiança de cuemo está. La tercer el logar do paresce está. La quatrena con cuáles cosas apareceria...." Alfonso X, "Libro de la ochava espera," 1:52.

reveals a new dimension of astrology as a political instrument and further connects the spiritual message of the *Libro de la ochava espera* to the technical, mathematical information of the rest of the compendium. In the first chapter on the constellation *ursa minor*, Alfonso introduced the importance of geometry and its ability to depict God's qualities:

But now, we want to talk about the sphere, as we promised, and we say that the sphere is one of the greatest figures in all the art of geometry, and that more quickly moves it moves all parts, because it is round in all places, and the lines that leave its points all agree in the center point. And therefore it is the most noble figure of all the others, and furthermore that our Lord made the skies, that are so marvelous, and so noble, according to this figure [of the sphere,] that shows the greatness of God more than any other figure, because as He comprehends and encircles all things in Himself, and nothing else can encircle Him, so does the sphere encircle all other figures.<sup>116</sup>

The mathematical composition of the spheres revealed the qualities of God, as do the details of the constellations throughout the rest of the text. Each chapter of the *Libro de la ochava espera* contains a circular diagram that names the exact location of each star according to the degrees of the celestial sphere (see Figure 2 in appendix). Alfonso shifted the focus from the theoretical qualities of celestial bodies to emphasize the visual, mathematical arrangement of the stars. Spiritual contemplation of the stars was inseparable from astronomical observation, which linked the religious message of the *Libro de la ochava espera* to the instruments and devices of the rest of the *Libros del saber de astronomia*.

Astrology in the *Libro de la ochava espera* was intimately bound with religious meaning. The constellations of the eight sphere possessed secret knowledge of God, and studying the stars

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<sup>116</sup> "Mas agora queremos tornar á fablar en la espera, assí cuemo prometimos et dezimos que la espera es una de las figuras mas grandes que en toda la arte de geometría se puede figurar, et que mas ayna se mueue á toda parte porque es redonda de todos cabos, et las linas que salen de los puntos della acuérðanse todas en el punto de medio. Et por esto es mas noble figura que todas las otras, et demás que nuestro Sennor fizo los cielos que son tan marauillosos, et tan nobles segun esta forma, ca esta demuestra la grandez de Dios mas que otra figura, porque assí cuemo él comprehende et ençierra todas las cosas en sí, et non ay otro que ençierre á ell, assí ençierra esta todas las otras figuras." Alfonso X, "Libro de la ochava espera," 1:16.



led to a deeper understanding of the Lord. When Alfonso composed the treatise, he invoked the occult virtues of celestial bodies to assert his superior knowledge of and close relationship with God. Alfonso deployed astrology to demonstrate his mastery of spiritual wisdom and to validate his right to uphold orthodox Christianity. Throughout the *Libro de la ochava espera*, knowledge of the location and arrangement of the stars, and their geometric relationship with one another, divulged the true nature of God and His plan. Alfonso stressed the technical configuration of the constellations, which further linked the first treatise to the body of his compendium on astronomical instruments, clocks, and devices. The *Libros del saber de astronomia* provided the pragmatic means to realize the theoretical goals of the *Libro de la ochava espera*. Contemplation of the stars required precise measurements from astronomical instruments and devices, which Alfonso provided in the subsequent fifteen treatises.

#### EXPERTISE, PRECISION, AND STANDARDIZATION

Composed and compiled between 1252 and the 1270s, the *Libros del saber de astronomia* is a compendium of technical astrological knowledge that describes how to construct and use astrolabes, clocks, and sundials to obtain precise measurements of celestial movements.<sup>117</sup> The compendium opens with a general prologue and index that list the sixteen

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<sup>117</sup> The *Libros del saber de astronomia* did not enjoy as wide distribution as did Alfonso's other technical work, the *Tablas alfonsíes*. Manuel Rico y Sinobas published the first and only transcription of the manuscript in five volumes titled *Libros del saber de astronomia*. With this title, Rico y Sinobas assured his 19<sup>th</sup>-century colleagues that the Alfonsine canons were concerned with astronomical measurement rather than astrology. A century later, Anthony Cárdenas has argued that the proper title would have been *Libros del saber de astrologia* or simply *Del saber de astrologia*. While the terms *astronomia* and *astrologia* were often interchangeable in Alfonsine texts, it is worth noting that Rico y Sinobas interpreted the title to suit his 19<sup>th</sup>-century notion of astral sciences. I will use Rico y Sinobas' title, but not to suggest that Alfonso regarded its contents as distinct from astrology.

treatises in their intended order, starting with the *Libro de la ochava espera*. Alfonso meant for the theoretical, mystical contemplation of the stars to preface the treatises on its practical application, that is, astronomical measurement. As a part of the monarch's program to legitimize and centralize his authority over a diverse kingdom, the *Libros del saber de astronomia* appropriated Muslim astral science as a part of his domain, both political and intellectual. The compendium includes original texts and translations of Arabic texts drawn from eleventh century sources, the period of taifa kingdoms and the peak of Hispano-Arab intellectual culture.<sup>118</sup> As a patron of science, Alfonso systematically claimed ownership of superior Muslim intellectual culture and asserted himself as the successor to taifa scientific prestige. In the process he established himself as an expert in the technical, precise details of astrological observation and aimed, through his focus on instruments and devices, to standardize measurement of the celestial spheres. Standardization is in itself a mechanism to centralize power, as it promotes conformity to a norm defined by the monarch.<sup>119</sup> When Alfonso revealed his expertise through precise instruments and standardized astronomical tables, he appropriated the right to determine the exact location, movement, and behavior of celestial bodies. In the context of his larger political program, Alfonso's control of astronomical measurement established his ability to mediate how people understood and studied God and justified his right to declare the proper faith. Through the *Libros del saber de astronomia* Alfonso validated his political and intellectual authority over non-Christian subjects and his right to declare himself the official arbiter of God's will.

<sup>118</sup> See Juan Vernet Ginés, *La cultura hispanoárabe en Oriente y Occidente* and Juan Vernet and Julio Samsó, "La ciencia," in *Historia de España Ramón Menéndez Pidal VIII: Los reinos de taifas, al-Andalus en el siglo XI*, edited by María Jesús Viguera Molíns (Madrid: Espasa Calpe, S.A., 1999): 565-584.

<sup>119</sup> See M. Norton Wise, *The Values of Precision* (Princeton: Princeton University Press, 2005), specifically the article by Ken Alder, "A Revolution to Measure: The Political Economy of the Metric System in France," 39-71.

The translation and composition of the *Libro del saber de astronomia* reveal Alfonso's active participation as a patron and how he asserted himself as an expert in order to claim intellectual authority over superior, non-Christian scientific culture. As a patron of astrology, Alfonso selected who received royal support and dictated what material his scholars wrote, and thereby defined the correct astrology. When Alfonso chose a scholar and assigned him a text, the king identified the individual's specialized body of knowledge as particularly and politically useful and consequently recognized the scholar as an expert.<sup>120</sup> By controlling the scientific activity of his scholars, Alfonso claimed their expertise as his own, for an expert in the service of the monarch resigns his knowledge and skills to the control of the ruler.<sup>121</sup> Alfonso appropriated the scientific knowledge of his experts as a means to claim ownership of Judaeo-Muslim culture and incorporate their intellectual and cultural identities as facets of the Christian monarchy. In addition to being the descendant of Castilian royalty, Alfonso asserted himself as the legitimate successor to the kings of al-Andalus by incorporating their culture into his own kingship.<sup>122</sup>

To appropriate Muslims scientific culture, Alfonso needed to command expertise in both astrology and Arabic language, and he selected his experts accordingly. The monarch chose fifteen individuals who collaborated to translate, compose, redact, and organize the astrological texts. Of the fifteen scholars, four were Jewish, ten Christian, and one a Muslim who converted

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<sup>120</sup> Eric Ash states: "To be an 'expert' was to possess and control a body of specialized practical or productive knowledge, not readily available to everyone. I specify both "possess" and "control" here in order to emphasize the operative nature of expert knowledge in the early modern context—the ability to put one's expertise to productive use, to do things of value, or at least to get things of value done by directing the work of others." Ash, "Expertise in the Early Modern State," 5.

<sup>121</sup> Ibid., 5.

<sup>122</sup> For an example of intellectual and cultural appropriation for political legitimacy in 'Abbasid Baghdad, see Dimitri Gutas, *Greek Thought, Arabic Culture*.

to Christianity.<sup>123</sup> To translate the astrological texts from Arabic into Castilian, Alfonso almost always employed a Jew who could read Arabic and translate orally into the vernacular.<sup>124</sup> A secondary translator, typically a Christian, accompanied the Jewish scholar to record the translation, to ensure the Castilian was proper and clear, and potentially to oversee the Christianization of the Islamic sources. Alfonso's scholars undoubtedly possessed more knowledge of astral science than their patron, but by establishing himself as the director of their production Alfonso asserted himself as the ultimate authority and, in a way, the source of their scientific expression.

Alfonso recognized and took advantage of the superior linguistic and scientific skill of his Jewish translators. Although Alfonso employed more Christian than Jewish scholars, he assigned three quarters of the scientific projects to Jewish translators. Two of the Jewish scholars, Abraham Alfaquín and Samuel Levi, were members of two of the highest standing Jewish families of Castile and León.<sup>125</sup> Yhuda ben Mose ha-Cohen and Isaac ibn Sid, two other Jews who received Alfonso's patronage, were the two most prolific scholars of the monarch's scientific project. These two scholars produced eighteen texts, more than the activity of the

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<sup>123</sup> I accept the names and identities proposed by Clara Foz in her *El traductor, la Iglesia, y el rey*. There is some dispute concerning the identity of a few translators due to the inconsistent spelling of Jewish names.

<sup>124</sup> Foz, *El traductor, la Iglesia, y el rey*, 40-42.

<sup>125</sup> The term *alfaquí* is from the Arabic *al hakīm* for doctor, and can refer to either a physician or a philosopher. Abraham translated an Islamic religious text, *La escala de Mahoma*, and two scientific texts, the *Libro de la constitución del universo* and the redaction of the *Libro de la açafeha*.<sup>125</sup> Samuel Levi participated in the revision of the *Libro de la ochava espera* and composed an original treatise which forms part of the *Libros del saber de astronomía*. The works of these two individuals, although less significant than their other two colleagues, demonstrate the diversity of texts assigned to Jewish scholars as well as their various roles as translators, authors, and editors. Foz, *El traductor, la Iglesia y el rey*, 45-67.

eleven Christians combined.<sup>126</sup> Alfonso took advantage of their specific knowledge, assigning them to projects that corresponded to their areas of expertise. Yhuda, a personal *alfaquí*—that is, physician of the king—mainly translated works on judicial astrology and astral magic, which demonstrates his specialization as a master linguist who knew the more mystical qualities of the stars.<sup>127</sup> In the prologue to the *Lapidario*, Alfonso described Yhuda's expertise and stressed his linguistic skills, stating that "he was very knowledgeable in the art of astronomy, and knows and understands Arabic and Latin well."<sup>128</sup> Isaac, who authored nine of the sixteen texts in the *Libros del saber de astronomia*, was an expert in the construction and use of astrological instruments and precise measurement of the motions of planets and stars. While he did translate a few astrological works for Alfonso, these texts concerned technical information on celestial movements rather than astrological interpretation.<sup>129</sup> When Alfonso paired Yhuda and Isaac on the decade-long project of the *Tablas alfonsíes*, he employed all areas of expertise to record authoritative measurements of the celestial spheres. The *Tablas alfonsíes*, which represented the

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<sup>126</sup> See David Romano, "Los hispanojudíos en la traducción y redacción de las obras científicas alfonsíes," in *La escuela de traductores de Toledo*, 35-50.

<sup>127</sup> Yhuda was the primary translator of the first version of the *Libro de la ochava espera* and collaborated with Samuel Levi on its later redaction. He also translated the *Lapidario*, the *Libro conplido en los iudozios de las estrellas*, the *Libro de las cruces*, the *Libro de la alcora*, and collaborated with Isaac ibn Sid on the *Tablas alfonsíes*. Yhuda also translated the *Libro de la açafeha* from Arabic into Latin between 1205 and 1231, which predates Alfonso's patronage but demonstrates the Jewish scholars' expertise in multiple languages. Foz, *El traductor, la Iglesia, y el rey*, 75-76.

<sup>128</sup> "...era mucho entendudo en la arte de astronomia & sabie & entendie bien el arauigo & el latin." Alfonso X, *Lapidario*, eds. Roderic C. Doman and Lynn W. Winget (Madison: Hispanic Seminary of Medieval Studies, 1980), 3.

<sup>129</sup> Isaac translated Azarquiel's *Almanaque* and Battâni's *Cánones* and collaborated with Yhuda to complete the *Tablas alfonsíes*. He authored nine original treatises in the *Libros del saber de astronomia*: the *Libro del astrolabio Redondo*, the *Libro del quadrante*, the *Libro de la lamina universal*, the *Libro de las armellas*, and the last five treatises on water clocks, sundials, and the "palace of hours." Owen Gingerich, "Alfonso the Tenth as a Patron of Astronomy," in *Alfonso of Castile, the Learned King (1221-1284)*, ed. Francisco Márquez Villanueva and Carlos Alberto Vega: 30-41.

culmination of Alfonso's efforts regarding precision and standardization of astrological measurements, used linguistic, astrological, and technical expertise. Alfonso identified Yhuda and Isaac as experts in specific areas of astral science and, through his patronage, claimed their knowledge and skills as his own, thereby undermining non-Christian claims to intellectual superiority.

Alfonso's active participation throughout the *Libros del saber de astronomia* indicates his intent to use the texts to establish his expert knowledge of technical, astrological knowledge. The encyclopedic nature of the text— and especially the originally treatises commissioned specifically to follow a planned, systematic progression from one device to the next— show that Alfonso sought to create an authoritative work that described all ways to measure the sky.<sup>130</sup> His organized sequence of instruments and devices emphasized his expertise and superior knowledge of celestial motions, which in turn substantiated his claim as the heir to Muslim intellectual culture and the arbiter of God's will. Instruments allowed Alfonso to establish the pragmatic implementation of the spiritual contemplation developed in the *Libro de la ochava espera*, and indeed all other assertions he made through astrology. In combination with the *Tablas alfonsíes*, the instruments and devices of the *Libros del saber de astronomia* were an attempt to standardize measurement of the natural world, which in itself was an exercise of royal power. On a more basic level, instruments were an impressive, visual display of Alfonso's mastery of the heavens. The technical, mathematical tools communicated his ability to produce precise, authoritative

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<sup>130</sup> For a complete description of the sixteen treatises and an analysis of their organization, see Owen Gingerich, "Alfonso the Tenth as a Patron of Astronomy," in *Alfonso of Castile, the Learned King (1221-1284)*, 30-45.

measurements of the celestial spheres.<sup>131</sup> Moreover, standardization removed local autonomy and suppress dissent by promoting adherence to a uniform definition of natural events. By demonstrating his control of the natural world and imposing standardized astronomical measurements, Alfonso aligned his political authority with his visible and observable authority over nature.

By focusing on the design and construction of astrological instruments, Alfonso extended his expertise from the theoretical realms to astrological practice and observation. Moreover, he used these devices to display his knowledge and skill, both in fabrication and in use. Being able to explain and use complicated instruments was an exercise of authority, a public display of knowledge. Furthermore, knowing how to organize instruments revealed his superior understanding of both the theoretical and practical knowledge of astrology. It also allowed him to determine *how* people acquired astrological knowledge or carried out astrological observations. Throughout the *Libros del saber de astronomia*, Alfonso included many three-dimensional, rare, and inconvenient instruments. These bulky and complex devices had simpler, more convenient versions that Alfonso also included. The transition between the spherical and the planispheric astrolabes demonstrates the relationship between the instruments and Alfonso's intention to demonstrate his mastery of complex devices:

But now we want to talk of the astrolabe that was once round like a sphere. And because Ptolemy saw that this instrument was very [difficult?] to carry from one place to another, due to its greatness, and also [difficult] to make, from the roundness he made it flat in the place where the signs were, and the other stars that were close to them. And although we have mentioned the astrolabe in another place, and of the fixed stars that Ptolemy came to put on it. But we didn't talk of

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<sup>131</sup> For a discussion of the particular role of astronomical instruments in politics, see Darin Hayton, "Expertise ex Stellis: Comets, Horoscopes, and Politics in Renaissance Hungary," *Osiris* 25, no. 1 (2010): 27-46.

how to make it..., nor of how to work with it. And for this reason we want to show this now.<sup>132</sup>

The planispheric astrolabe was simpler than its spherical counterpart and was more convenient and straight-forward to use. Alfonso recognized this, but included both instruments as a part of his sequential organizational scheme. The three dimensional devices, while inconvenient to use, required a more intricate understanding of the details of celestial motion, and how and why the more common instruments represented these motions (see Figures 3-5 in appendix). By including the complex devices, Alfonso demonstrated that he did not merely know how to construct and use them, but commanded the technical knowledge of how and why an instrument functioned the way it did and exactly how it mapped the movements of stars and planets. Alfonso communicated in concrete terms his command of the patterns and behaviors of the astrological bodies, which reinforced his intellectual and authority over Muslim and Jewish culture and solicited their support by promoting conversion.

By declaring himself an expert in the technical details of astrological measurement, Alfonso asserted his ability to calculate the exact location of planets and stars and to map their movements on the past and future. Precision often goes hand in hand with centralization and consolidation of power, which Alfonso attempted to achieve through legal codes, fiscal policy, his relationship with the church, and the repopulation of Andalusia.<sup>133</sup> Represented as a physical,

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<sup>132</sup> “Mas agora queremos dezir dell astrolábio que fué primeramente redonde cuemo la esfera. Et porque ouo Ptolomeo que era estrumento muy grieue de traer de un logar á otro por la grandez dél, et otrossí de fazer, de redondo que era tornóle llano en el logar o eran los signos, et las otras estrellas que eran cerca dellos. Et cuemo quier que nos ouiésemos fablado en otro logar dell astrolábio, fablamos de las estrellas fixas que aportó Ptolomeo pora poner en éll. Mas non fablamos de cuemo deue seer fecho, ni de quáles, ni de cuemo deuen obrar con él. Et por ende queremos lo agora mostrar.” Alfonso X, “Libro del astrolabio llano,” in *Libros del saber de astronomia*, 2:225.

<sup>133</sup> For descriptions of the various roles of precision in politics, see M.Norton Wise, ed., *The Values of Precision*.



objective manifestation of a monarch's abstract political power, precision substantiated Alfonso's extensive religio-political use of astrology.<sup>134</sup> Precise astrological data, such as the stellar and planetary positions in the *Tablas alfonsíes*, was a measurable, verifiable demonstration of the king's command over the natural world and his true understanding of God's creation. Alfonso asserted that he alone—not the past Muslim and Jewish astronomers—knew the exact location of the celestial bodies at any given time. His subjects saw his mastery of the natural order in his astronomical tables, and could compare Alfonso's data to their own observations to test his expertise. To use astrology successfully, or contemplate the movements of the stars in search of communion with the divine, an individual needed exact knowledge of the location and movements of celestial bodies. Alfonso established the correct location of planets and stars through technical information and measurement, which was precise and promised exactitude, to confirm and authenticate the other texts that contained judicial astrology and astrological contemplation.

The prologue to the *Tablas alfonsíes* reveals the particular importance of precision in Alfonso's scientific program. The prologue focuses on the idea of increasing the precision of past astronomical tables:

Because the science of astrology cannot be [ascertained] except for [corrections] and the [corrections] that the wise men complete, in this science, cannot be completed by one man because they cannot be completed during the lifespan of a man... And some 200 years have passed since the [corrections] of Azarquiel, and some great [diversities y parescidas a los sentidos] have appeared in his [posturas], in such a way that there is no excuse. In this time [seemed like? appeared?] the reign of King Alfonso, fortunate and blessed by God. And because he loves and [values] the wise men, he ordered them to make the instruments named by Ptolemy in the *Almagest*, like the armillaries and other instruments. And he ordered us to [correct], in Toledo, one of the principal cities of Spain, may God guard it. And in Toledo Azarquiel made his [corrections]. This [Alfonso]

<sup>134</sup> M. Norton Wise, "Introduction," in *The Values of Precision*, 3.

ordered [through his guide], and to correct the disparities and disagreements that appear in some places and in some planets and in other movements.<sup>135</sup>

The prologue identifies the inaccuracies in the Toledan tables recorded by Azarquiel during the early 11<sup>th</sup> century. Two centuries had elapsed since the previous tables had been recorded during which time they had become increasingly inaccurate. As patron of learning and successor to Muslim scientific splendor, Alfonso would usher in a new phase of Iberian prestige under the patronage of a Christian monarch. This new phase implied that only now, with the help of the king's precise instruments and observations, could the non-Christian subjects realize the true nature of God in the heavens. The new tables, commissioned by Alfonso, improved on all astronomical observations of the past. Precision, of both measurements and observation, validated Alfonso's claim to be the legitimate heir to Muslim science and justified his right to declare the correct faith.

Precision leads to standardization of measurement and astrological data. In Alfonso's intellectual program, the *Libros del saber de astronomia*, *Tablas alfonsíes*, and the texts on judicial astrology standardized scientific expression. Standardization at the hands of a monarch was inherently an exercise of political power, since it promoted conformity to a single, particular standard or norm. When measurements are precise, people cease testing them against nature and

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<sup>135</sup> "Porque la ciencia de la astrologia es cosa que no se puede averiguar sino por rectificamientos e los rectificamientos que tienen los sabios que compulen en esta cosa no los puede cumplir un hombre porque no se puede cumplir en vida de un hombre.... E a passado del ratificar de Asarquiel aca quanto dosientos años e paresçio en algunas de las posturas que el puso diversidades magnifiestas y paresçidas a los sentidos de manera que no puede alli caber alguna excusa. En esta sason paresçio el reynado fortunado et ayudado de Dios el reyno del muy alto y muy noble señor Rey don Alonso que Dios mantenga. E porque amava los saberes e los preçiava, mandoles haser los ynstrumentos que dixo Ptholomeo en su libro del Almagesto, sigud son las armillas y otros ynstrumentos. E mandonos retificar en la çibdad de Toledo ques una de las çibdades prinçipales de España, guardela Dios. En ella fue el retificar de Asarquiel. Esto mando por endereçar y corregir las diversidades y desacordanças que paresçieron en algunos lugares de algunos de los planetas et en otros movimientos." Chabas and Goldstein, eds., *The Alfonsine Tables of Toledo*, 19-20.

accept them *as* nature. Through precise instruments and observations, Alfonso appropriated for himself the right to dictate standardized tables of astronomical data. In the same way the *Siete partidas* codified how subjects could interact with one another, precise astrological data codified how subjects could interact with the natural world. The standardized astrological measurements and interpretations established by Alfonso's scientific patronage defined nature and, in turn, how man could see, use, and relate to God's creation. By presenting precise, standardized, technical information, Alfonso was able to use the natural world, and especially the heavens, to demonstrate his authority over all things celestial and terrestrial. Control of the natural world through astrological expertise represented a concrete, observable manifestation of Alfonso's abstract political authority.

In the *Libros del saber de astronomia*, Alfonso demonstrated his mastery of the technical details of astrology. He methodically described instruments and devices that promised precise measurements of the celestial sphere. The *Libro de la ochava espera*, the first treatise in the compendium, connected the technical information to Alfonso's religio-political program. Through his role as patron, Alfonso claimed the astrological expertise of his scholars and appropriated the right to establish the motions and behaviors of the celestial bodies. In the process, he asserted himself as the successor to Muslim science by systematically rendering astrological texts a part of his intellectual and political domain. Alfonso deployed astrological expertise to create standardized instruments and measurements that promised exactitude. As the source of precise astrological data, Alfonso justified his right to determine the motions and behaviors of the celestial bodies. Control of astronomical measurement validated his right to determine how God worked through His creation and, by extension, how individuals interacted with the Lord. The technical information of the *Libros del saber de astronomia* complemented

the *Libro de la ochava espera* and endowed Alfonso with the political, intellectual, and religious authority over non-Christian subjects.

## THE AUDIENCE

The success of Alfonso's efforts to legitimize authority and centralize royal power over his extensive territory and multi-confessional subjects depended on reaching particular audiences. Those audiences needed to accept, or at least be open to accepting, his argument. During the thirteenth century, the Iberian kings confronted not only Jewish and Muslim populations, but also a substantial tradition of heterodox Christianity.<sup>136</sup> Even Christian faith was anything but uniform. After centuries of cultural intermingling, there were various Christian groups: orthodox Christians who followed the Roman Liturgy; Spanish Christians who upheld the Hispanic or Mozarabic rite; Mozarabs, or Arabized Christians who had lived under Islamic rule; and Mozarabs who had converted from Islam or Judaism in the eleventh century after the reconquest of Toledo, but who here racially and culturally Arab.<sup>137</sup> Alfonso responded to the religious diversity with a program to promote orthodox Christian doctrine. His effort to codify religious worship represented a centralization of royal power. By unifying his people, Alfonso sought to convert them to a single ideology that worshipped the true Christian God and recognized Alfonso as His vicar on earth. Through his patronage of astrology, Alfonso enlisted the science of the stars to communicate with several distinct audiences. Peoples of all three faiths

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<sup>136</sup> For a brief history of heresy in Castile and León, see Claudio Sánchez Albornoz "Sensibilidad religiosa," in *España, un enigma histórico: tomo I* (Buenos Aires: Editorial Sudamericana, 1962), 344-6.

<sup>137</sup> For descriptions of the various branches of Christianity stemming from Muslim rule, see Mikel de Epalza, "Mozarabs: An Emblematic Christian Minority in Islamic al-Andalus" *The Legacy of Muslim Spain*, 149-170; and Margarita López Gómez, "The Mozarabs: Worthy Bearers of Islamic Culture," *The Legacy of Muslim Spain*, 171-175.

accepted the doctrine of celestial influences as well as astrology's relationship with God and its ability to reveal His plan to the expert interpreter.<sup>138</sup>

The main audiences for the astrological texts were the literate, educated elite of all three faiths. Not only were the high-ranking nobles the most powerful, and therefore the most immediate threat to Alfonso's power, they also stood in proxy for the king throughout his realm. By converting the elites to his political ideology, Alfonso hoped to enlist their support in spreading his version of orthodox Christianity throughout the population. Nobles and leaders of religious communities represented a tangible threat to the monarchy. The revolts of the *mudéjares* in 1264-1266 and of the nobles in 1272 demonstrated that massive political uprisings usually transpired as the plan of a small group of elites.<sup>139</sup> Alfonso was constantly wary of his powerful peers. Consequently, he was most eager to convince them of his exclusive right to rule. Although the astrological texts would have addressed a limited audience, Alfonso depended on this small body of elites to maintain order. By converting them, Alfonso hoped to quell the likelihood of rebellion and to help spread his orthodox Christianity throughout the kingdom.

Alfonso's decision to use the vernacular for his scientific corpus underscored the political nature of his intellectual project. Had Alfonso intended only to elevate the cultural prestige of his

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<sup>138</sup> For astrology in the Jewish tradition, see Tamsyn Barton, *Ancient Astrology*, 68-70 and Campion, *History of Western Astrology*, 35-42. For astrology in the Islamic tradition, see Campion, *History of Western Astrology*, 59-68.

<sup>139</sup> The emir of Granada, Ibn al-Ahmar, organized the *mudéjar* revolt. Alfonso's brother Infante Felipe and close childhood friend Nuño González de Lara helped organize the revolt of the nobility. O'Callaghan, *The Learned King*, 181-2 and 223. The letters exchanged between the princes of Morocco and Alfonso's brothers, sons, and highest nobles also demonstrate the political intrigue among the king's high-ranking peers. *The Chronicle of Alfonso X* records a letter from Aben Yusuf, King of Morocco, to Infante Felipe that offered to help him rebel: "My messengers made it known to me that all the noblemen met with you so that you might help them to take away the wrongs which he [Alfonso], your brother, is doing to them. And this pleases me... And I desire to have you know how much I love you, and that if from me you have need of money or men or knights or weapons, I am able to help you." Shelby Thacker and José Escobar, trans., *Chronicle of Alfonso X* (Lexington: The University of Kentucky, 2002), 86.

kingdom or to cultivate a learned culture, he would have translated more works into Latin, the intellectual language. By translating texts into Castilian, Alfonso ensured readers would associate the scientific knowledge with him specifically, as the ruler of Castile, rather than the pan-European intellectual community. The monarch's choice to use the vernacular also reflected the nationalist aspect of his political program that focused on conversion. Castilian ensured that the scientific achievement was uniquely associated with Alfonso's court. Latin, the language of Scripture, was Christian in a problematic way. Writing in Castilian ensured that the scientific texts did not alienate Jewish and Muslim readers by being too closely associated with Christian sacred texts. Moreover, both groups were more comfortable with the vernacular. By choosing Castilian over Latin, Alfonso appealed to specific groups of his subjects.

Alfonso's political program targeted heterodox sects and aimed to eliminate heresy. In medieval Castile, the words 'heresy' and 'sect' applied to all faiths except Catholic Christianity. The three monotheisms recognized the same God, which meant that Judaism and Islam were not entirely distinct from Christianity but rather were incorrect, heretical interpretations of God's will, that is, heretical sects.<sup>140</sup> In the *Estoria de España*, Muhammad befriended a heretical monk and learned from him the Old and New Testaments "in order to defend himself against Jews and Christians when he departed from them...[it] was all against God, His law, and all heresy."<sup>141</sup>

<sup>140</sup> See Emilio Mitre Fernández's "Otras religiones '¿otras herejías'?" (los judíos en el medievo europeo y el especial caso hispánico)," *Hispania Sacra* 54, 110 (2002): 515-552; and John V. Tolan, *Saracens: Islam in the Medieval European Imagination*, 135-170.

<sup>141</sup> "...et moraua alla con los judios et los cristianos que y auie una sazon dell anno, e mayormiente con un monge natural de Anthiochia, que auie nombre Johan, que tenie el por su amigo et era herege; e daquel monge malo aprendio el muchas cosas tan bien de la nueua ley como de la uieia pora defender se contra los iudios et los cristianos quando con ellos departiesse, ca todo lo que aquel monge le demostraaua, todo era contra Dios et contra la ley, et todo a manera de heregia." Menéndez y Pidal, *Primera crónica general*, 265.

Later in life, Muhammad traveled to Cordoba “and preached his evil sect.”<sup>142</sup> To Alfonso, his Jewish and Muslim subjects practiced improper, misinterpretations of God’s will and, like heterodox Christians, could be guided to the one true faith through proper education.

As king, Alfonso interacted with many Muslim and Jewish leaders who would have been potential audiences for his astrological corpus. The elite, highly educated Muslim and Jewish individuals were most likely to command the necessary skills to either understand or appreciate the technical, mathematic intricacies of astrology such as the *Libros del saber de astronomia*, *Tablas alfonsíes*, and even judicial astrology. Alfonso’s use of precise, expert astrological knowledge most directly addressed his non-Christian subjects over whom he aimed to assert his religio-political authority and, ideally, inspire them to convert. Within his royal household, Alfonso employed many Jews and presumably some Muslims, especially in positions that required skills in math and medicine.<sup>143</sup> Alfonso often interacted with the heads of Jewish communities, some of whom he employed as *almojarife*, or royal treasurer, and many of whom received large land grants in the repartitions of Seville and Murcia.<sup>144</sup> Laws from the *Siete Partidas* distinguish between Muslims living within Castilian territories and those who visit from

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<sup>142</sup> “Despues desto passo ell a Espanna et fuesse pora Cordoua, et predigo y aquella su mala secta; dizie les en su predicacion que Nuestro Sennor Ihesu Cristo que nasciera de uirgen por obra dell Spiritu Sancto, mas non que fuesse el Dios.” Menéndez y Pidal, *Primera crónica general*, 266.

<sup>143</sup> While I have not found any individual Muslim members of Alfonso’s court or household, Castilian kings responded to multiple complaints from the nobility about Jews and Moors in royal service. José María García Marín concludes that while it was much more rare to find a Moor in an official position, they must have interacted with the monarchy, and often occupied the position of *corredor de concejo*. García Marín, *El oficio público en Castilla durante la Baja Edad Media*, 190-1.

<sup>144</sup> Norman Roth, “Two Jewish Courtiers of Alfonso X called Zag (Isaac),” *Sefarad* 43 (1983): 75-85.

elsewhere, which indicates that Alfonso received Muslim delegates or guests.<sup>145</sup> The elite non-Christian subjects were a specific target of Alfonso's use of astrology, which aimed to demonstrate religious, political, and intellectual authority over Jewish and Muslim populations.

A second distinct audience for the astrological texts were the Muslim leaders of Granada and North Africa. The political instability of the southern Iberian Peninsula, and the tradition of near peaceful concessions of authority between Christian and Muslim monarchs, offered the necessity and opportunity for Alfonso to demonstrate his authority to his neighbors. Many Muslim cities capitulated to Christian advances without extensive military conflict. In 1244, Ibn al-Ahmar, king of Granada, decided to save himself and his kingdom from Christian invasion by becoming a vassal of Fernando III.<sup>146</sup> Ibn al-Ahmar promised to pay the Castilian crown an annual tribute of 150,000 *maravedís* over twenty years, to serve Castile in war and peace, and to attend the *cortes* as a vassal.<sup>147</sup> In a similar fashion, Murcia surrendered its alcazar to the Christians and promised fixed payments in exchange for political stability and military protection from Islamic in-fighting.<sup>148</sup> Such a tradition of reconquest indicated that Christian territorial expansion did not have to stem from military action, and Alfonso could have used his astrological texts as a demonstration of his prestige, his right to rule, and his legitimacy as political and intellectual heir to all of Spain and North Africa.<sup>149</sup> In so doing, Alfonso confronted

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<sup>145</sup> For example, Law IX in Title XXV Concerning the Moors, is "Moors Who Come on a Mission from Other Kingdoms to the Court of the King Should, with Their Property, Be Safe and Secure." Samuel Parsons Scott, trans. *Underworlds: The Dead, the Criminal, and the Marginalized*, vol. 5 of *Las siete partidas*, ed. Robert I. Burns, S.J. (Philadelphia: University of Pennsylvania Press, 2001), 1441.

<sup>146</sup> O'Callaghan, *Reconquest and Crusade in Medieval Castile*, 110.

<sup>147</sup> *Ibid.*, 110-111.

<sup>148</sup> Torres Fontes, Juan. "Los mudéjares murcianos en la Edad Media," 55-6.

<sup>149</sup> Traditionally, the heir to León saw himself as the heir to the Visigothic empire, which possessed all of the Iberian Peninsula and Northern Africa. Joseph F. O'Callaghan, "The Integration of Christian Spain into Europe: The Role of Alfonso VI of León-Castile," in *Alfonso*



the unstable borders of Andalusia that continuously threatened revolt or recapitulation to Ibn al-Ahmar of Granada and used astrological knowledge to discourage challenges to his authority.

Although his Christian subjects would not have commanded the technical skill to fully grasp the details of astrology, specific elements of Alfonso's astrological corpus would have addressed and influenced the Christian community. As a mirror of princes that focused more on allegory than mathematics or technical expertise, the *Setenario* appealed to Alfonso's heirs as well as his high-ranking nobles. Noble families often read royal guidebooks as a way to cultivate princely qualities and morals.<sup>150</sup> Through the *Setenario*, the nobles who traveled with or visited Alfonso's court would have found a book that invoked astrological principles to explain true Christian doctrine. The specific audience of the *Setenario* also explains its contents. The text contains a discussion of princely qualities, an extensive discussion of learning, natural philosophy, and God, and finishes with an explanation of correct Christian law. The passages on Christian law focus less on conversion and more on establishing and legitimizing proper Christian doctrine, which demonstrates Alfonso's intent to instill orthodoxy on his already Christian nobles who had a tendency to follow traditional, heterodox practices.<sup>151</sup> Even though

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*X, the Cortes, and Government in Medieval Spain* (Aldershot: Ashgate Publishing Ltd., 1998), 104.

<sup>150</sup> For an example of the historical uses of mirror of prince literature, see Charles F. Briggs, *Giles of Rome's De Regimine Principum: Reading and Writing Politics at Court and University, c. 1275-1525*. (Cambridge: Cambridge University Press, 1999).

<sup>151</sup> The Roman Liturgy was not introduced on the Iberian Peninsula until the 1080s, and was met with significant popular resistance. During Alfonso's reign, Cardinal Gonzalo Pérez Gudiel, archbishop of Toledo from 1280-1298, was a descendant of Mozarabs and actively supported the Hispanic rite in various institutions. Spain also had a particular tendency for adoptionist heresy. See Ludwig Vones, "The Substitution of the Hispanic Liturgy by the Roman Rite in the Kingdoms of the Iberian Peninsula," *Hispana Vetus: Musical Liturgical Manuscripts from Visigothic Origins to the Franco-Roman Tradition (9<sup>th</sup>-12<sup>th</sup> centuries)*, eds. Susana Zapke and Anscario M. Mundo (Bilbao: Fundación BBVA, 2007): 43-59; and Francisco J. Hernández and Peter Linehan, "The Mozarabic Cardinal: The Life and Times of Gonzalo Pérez Gudiel," *The English Historical Review* 122, no. 495 (2004): 168-170.

many nobles would not have understood the intricacies of astrology, the technical treatises still effectively demonstrated Alfonso's command of expert knowledge of the heavens and the divine. The scientific texts contained extensive diagrams and illustrations of horoscopes, constellations, geometry, and instruments (see Figures 3-5 in appendix). Whether or not an individual wished to or was able to actually read the text, anyone who opened Alfonso's astrological treatises was immediately aware of the technical intricacies under the king's control. By visually depicting the astrological ideas, principles, and devices, Alfonso reinforced his authority over the textual contents without requiring those whom he showed the text to read it. Alfonso invoked astrology as a mechanism to respond to heterodox Christian practice, to establish proper doctrine, and to assert himself as the arbiter and upholder of God's will.

During his reign, Alfonso used various mechanisms to establish and reinforce his legitimacy over a multi-confessional kingdom. He confronted Jewish and Muslim subjects who possessed superior intellectual culture; Christian subjects who subverted his power for their personal gains; and foreign Muslim kings who challenged his claims to southern territories. In response to such challenges, Alfonso invoked astrology as a concrete set of resources to demonstrate his authority. Different elements of his astrological corpus spoke to specific audiences, but all for the same general purpose: to portray himself to have legitimate and irrefutable political, intellectual, and religious authority.

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## CONCLUSION

Fernando III's rapid reconquest of Andalusia had destabilized Castilian society religiously, economically, and politically. Thousands of skilled workers had emigrated to Granada, causing inflation. To fill the empty southern territories and displace existing Muslim communities, Fernando and then Alfonso redistributed the lands to the Christian nobility. However, these land grants disrupted power balances by increasing the wealth of the already unruly nobles. Upset by Alfonso's fiscal policies and taxation, the nobility challenged his authority and fought his attempts to consolidate royal power. In the south, the Muslim populations also threatened Alfonso's authority. Murcia retained a degree of autonomy and, between 1264 and 1266, attempted to overthrow the Christian occupiers. Similarly, the king of Granada repeatedly broke his bonds of vassalage and periodically plotted with the kings of North Africa to dethrone Alfonso. Such economic, demographic, and political problems plagued Alfonso's rule and inhibited his efforts to centralize royal authority and create a unified, Christian kingdom.

To respond to the challenges of his reign, Alfonso implemented cultural and intellectual projects that aimed to centralize and legitimize his power over the diverse religious and ethnic groups within his kingdom. Astrology was the project's core, and linked the various parts of his intellectual program. Through translations, original compositions, and the design of technical instruments, Alfonso deployed astrology and its unique ability to reinforce his claims to authority. Astrology constituted one of the most sophisticated bodies of knowledge about the natural world and its relationship to God, especially in the Jewish and Muslim cultures. It combined technical, mathematical skills to esoteric knowledge of the celestial influences that communicated God's will. In the hands of a monarch, astrology was an especially powerful

mechanism to justify the king's right to rule. It connected the monarch's reign to the unassailable authority of God and the natural world. Astrology could both support a monarch's rise to power and ground his various cultural, religious, or political projects in the motions of the heavens. When Alfonso invoked astrology, he deployed it as a political tool to promote religious and social cohesion in a multi-confessional and culturally diverse kingdom. By employing Jewish scholars to translate Arabic astrological texts, Alfonso expropriated superior Judaeo-Muslim intellectual culture and asserted himself as the successor— intellectual and political— to the pan-Iberian heritage. Through production of instruments and astrological observations, Alfonso standardized measurement of the celestial spheres. His instruments and tables promised precise data of the movements of stars and planets, which in turn demonstrated his mastery of the natural world. By asserting himself as the source of expert astrological knowledge, he justified his right to interpret the stars and to dictate what they revealed about God and how to worship Him. Alfonso's superior knowledge of the celestial bodies demonstrated his superior knowledge of God, legitimized his reign, and validated his program to promote conversion to orthodox Christianity.

A reinterpretation of Alfonso's approach to science encourages a reconsideration of the secular nature of the medieval Castilian monarchy and Alfonso's approach towards non-Christian subjects. Alfonso saw his intellectual project, especially the production of scientific texts and instruments, as a fundamentally spiritual endeavor that led to a greater understanding of God. Such an understanding of Alfonso's approach to knowledge and learning complements recent work that has questioned the notion of a secular Castilian kingship. Moreover, Alfonso's use of astrology as a mechanism to promote conversion contributes to the debate concerning *convivencia* and his attitude toward non-Christian subjects. Non-Christian subjects, especially

Muslims, threatened political stability, but Alfonso could not expel or forcibly convert them.<sup>152</sup> Instead, he launched an intellectual project that appropriated the most sophisticated intellectual products of their culture in an effort to portray his reign and his version of Christianity as the proper realization of the natural order. This model reduced the Jewish and Muslim religions to incomplete or defective forms of Christianity. Alfonso's scientific texts played a key role in his broader program aimed at persuading Jews and Muslims to convert to Christianity and accept his political and spiritual authority.

Alfonso's intellectual project also raises general questions about intellectual activity and the role of natural philosophy in the Middle Ages. Royal patronage of an intellectual or cultural program was inherently a political act. How and why did other medieval monarchs devise intellectual projects that invoked natural philosophy? What religious, political, or societal issues did they aim to solve? Kings such as Charlemagne, Frederick II of Sicily, and Charles V of France oversaw intellectual courts that translated and composed works on natural philosophy. The case study of Alfonso's role as patron suggests that these medieval royal patrons implemented scholarly projects in order to achieve specific political ends.<sup>153</sup> Scholars have already celebrated the intellectual accomplishments of such royal patrons, but should now

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<sup>152</sup> Fernando III and Alfonso X did expel the Muslims from much of the territory around Seville, which caused significant economic and demographic problems. Consequently, when he addressed the population of Murcia, Alfonso did not immediately attempt to drive out the Muslims. However, he began to systematically redistribute *mudéjar* lands after their revolt. He focused first on Jerez, which had capitulated in 1266, by expelling its Moors. At the same time, he instructed his officials to begin repopulating Murcia. This sequence of demographic policy indicates the complexities of *convivencia* and royal policy towards Muslim subjects. See Joseph F. O'Callaghan, *Alfonso X and the Cantigas de Santa María: A Poetic Biography* (Boston: Brill, 1998), 124.

<sup>153</sup> Joan Cadden has proposed the political context for astrology under the patronage of Charles V of France. Cadden, "Charles V, Nichole Oresme, and Christine de Pizan: Unities and Uses of Knowledge in Fourteenth-Century France," in *Texts and Contexts in Ancient and Medieval Science: Studies on the Occasion of John E. Murdoch's Seventieth Birthday*, eds. John Emery Murdoch, Edith Dudley Sylla, M.R. McVaugh (New York: Brill, 1997): 210-244.

investigate exactly why medieval monarchs dedicated significant resources to foster literary and scientific expression.

An analysis of Alfonso's role as a patron of learning also calls attention to the relationship between politics, science, standardization, and expertise. As a case study in the relationship between science and politics, Alfonso's focus on astrological treatises reveals the importance for monarchs, and indeed any political leader, to control the production of scientific knowledge. For the monarch, controlling the production of scientific knowledge enabled him to influence the content of that knowledge and to enlist scientific knowledge in his political program. As patrons, monarchs exercised their authority to choose amongst scientific practitioners in order to identify those who were experts. In the process, they exercised their political authority as a way to validate the knowledge and skills of their favored practitioners while invalidating the claims of others. In this way, the monarch became the source of scientific authority. At the same time, the king enjoyed increased prestige through the success of his scholars. Similar dynamics bolster a monarch's power when he sponsors scientific projects that aim to improve precision of or to standardize existing bodies of knowledge. Standardization is an effort to centralize authority. The monarch once again holds himself up as the final arbiter of appropriate and correct knowledge. Both efforts to increase precision and to define standards remove local autonomy by elevating the monarch's standard over diverse, often competing models. A richer understanding of Alfonso's use of astrology and astrological instrumentation helps reveal the enduring dynamic between science, standardization, and political power.

Alfonso recognized the political utility of natural philosophy, especially astrology. He invoked the relationship between astrology and God as a mechanism to centralize his power, legitimize his authority over Christian and non-Christian subjects, and to promote conversion to

the one true faith. Alfonso's nephew Juan Manuel described the goal of his uncle's intellectual project in exactly those terms:

Of the many perfections and good things that God put in the King Alfonso... He put in him his talent to augment knowledge when he could... He translated, into this language of Castile, all of the sciences, from theology to logic, and all of the seven liberal arts... He also translated all of the sect of the Moors, because the errors of Muhammad, the false prophet, appeared in [this sect] in which they [the Moors] are today. Also, he translated all of the law of the Jews, and even their Talmud; and another science of the Jews, very hidden, that they call Kabbalah. And he did this because it was clear that through their law, that everything was a form of this law that we Christians have; and that they, just like the Moors, were in great error and in a state of losing their souls.<sup>154</sup>

Islam and Judaism were corruptions of the true, Christian law. To save his subjects' souls and convert them to Christianity, Alfonso translated scientific works as well as Islamic and Jewish sacred texts. For Alfonso, natural philosophy complemented Scripture to establish the proper Christian worship. There was no necessary distinction between religious and scientific texts. Alfonso enlisted both in his efforts to assert his political authority and to encourage religious and political unity in his multi-confessional kingdom. While Alfonso never successfully subdued his diverse and unruly kingdom, that his nephew still assumed that religious and scientific texts

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<sup>154</sup> "Entre muchos conplimientos et buenas cosas que Dios puso en el rrey don Alfonso...puso en él su talante de acresçentar el saber quanto pudo. ...que fizo trasladar en este lenguaje de Castiella todas las sciencias, tan bien de theología commo la lógica, et todas las siete artes libertales... Otrosí fizo trasladar toda la secta de los moros, por que paresçiesse[n] por ella los errors en que Mahomat, el su falsa propheta, les puso et en que ellos están oy en día. Otrosí, fizo trasladar toda [la] ley de los judíos, et aun el su Talmud; et otra sciencia que en los judíos muy escondida a que llaman Cábala. Et esto fizo por que paresç[ies]e manifestamente por la su ley, que toda fue figura deste ley que los christianos avemos; et que tan bien ellos commo los moros, están en grant error et en estado de perder las almas." Juan Manuel, "Libro de la caça," in *Cinco tratados de Juan Manuel*, ed. Reinaldo Ayerbe-Chaux (Madison: Hispanic Seminary of Medieval Studies, Ltd., 1989):179.

served the broader goals of the monarch reveals the ultimate purpose of Alfonso's project: "but all those who want to believe me, that they take this law and obey it, and none other."<sup>155</sup>

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<sup>155</sup> "...rrogamos e conseiamos e mandamus, non tan solamente a los de nuestro sennorio, mas a todos los otros que nos quisieren creer, que esta ley tengan e obedescan, e non otra." Alfonso X, *Setenario*, 67.



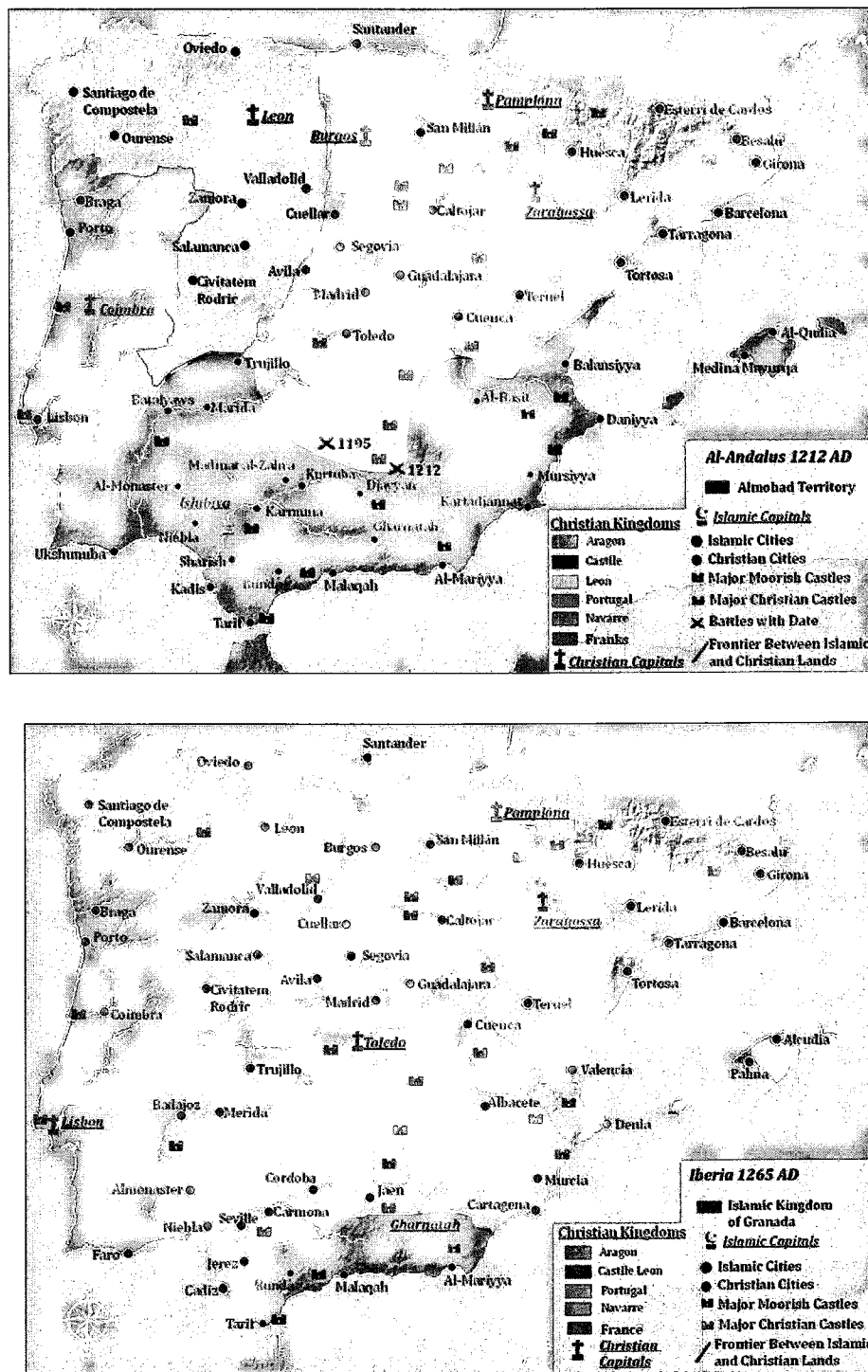


Figure 1: Maps of the Iberian Peninsula during the reign of Fernando III before the reconquest of Andalusia during the reign of Alfonso X, after the bulk of Andalusian reconquest.<sup>1</sup>

<sup>1</sup> Historical Atlas of the Mediterranean, "Islamic Spain and the Reconquest."  
<http://exploremed.com/reconquista.asp?c=1>.

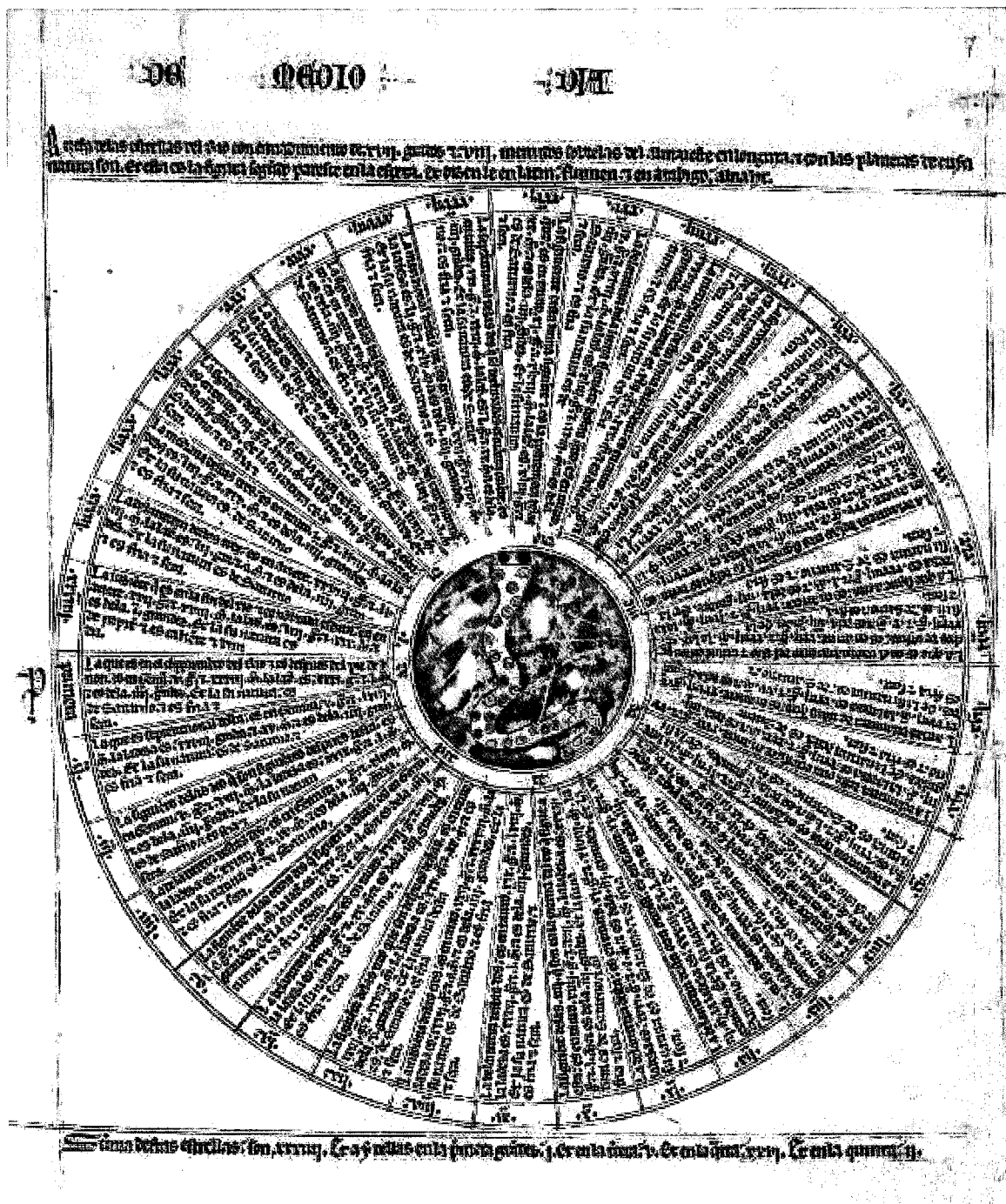


Figure 2: Constellation *rio* (river) from the *Libro de la ochava espera*. Each division of the circle locates a star from the figure.<sup>2</sup>

<sup>2</sup> Alfonso X, "Libros del Saber de Astronomia." Google Books, [http://books.google.com/books?id=3oOdTwi9\\_sC&printsec=frontcover&dq=libros+del+saber+de+astronomia&hl=en&ei=MyKxTeCEEoGtgqfMx4j-Cw&sa=X&oi=book\\_result&ct=result&resnum=1&ved=0CDcQ6AEwAA#v=onepage&q&f=false](http://books.google.com/books?id=3oOdTwi9_sC&printsec=frontcover&dq=libros+del+saber+de+astronomia&hl=en&ei=MyKxTeCEEoGtgqfMx4j-Cw&sa=X&oi=book_result&ct=result&resnum=1&ved=0CDcQ6AEwAA#v=onepage&q&f=false). (Accessed March 20, 2011).

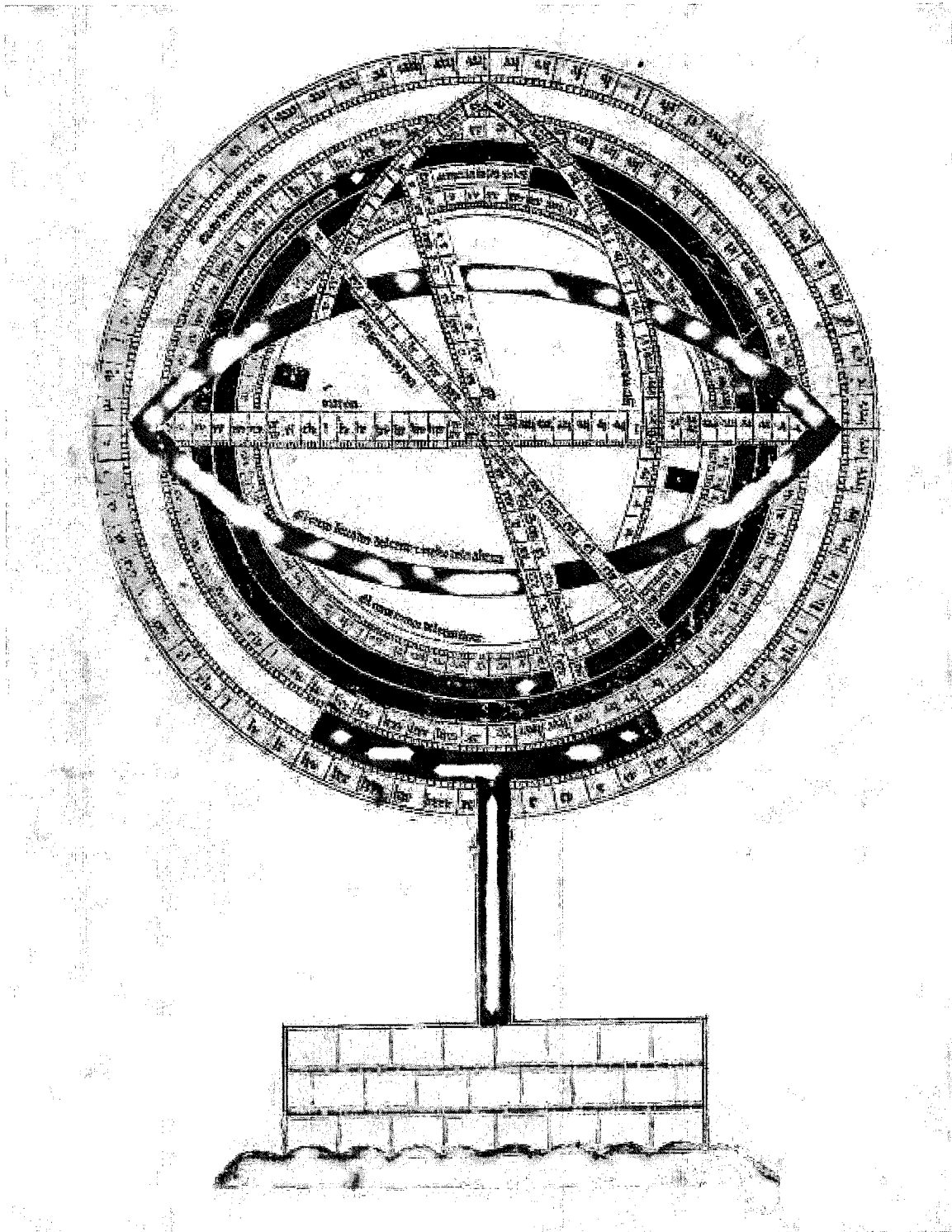


Figure 3: The armillary sphere from the *Libros del saber de astronomia*.<sup>3</sup>

<sup>3</sup> Ibid.

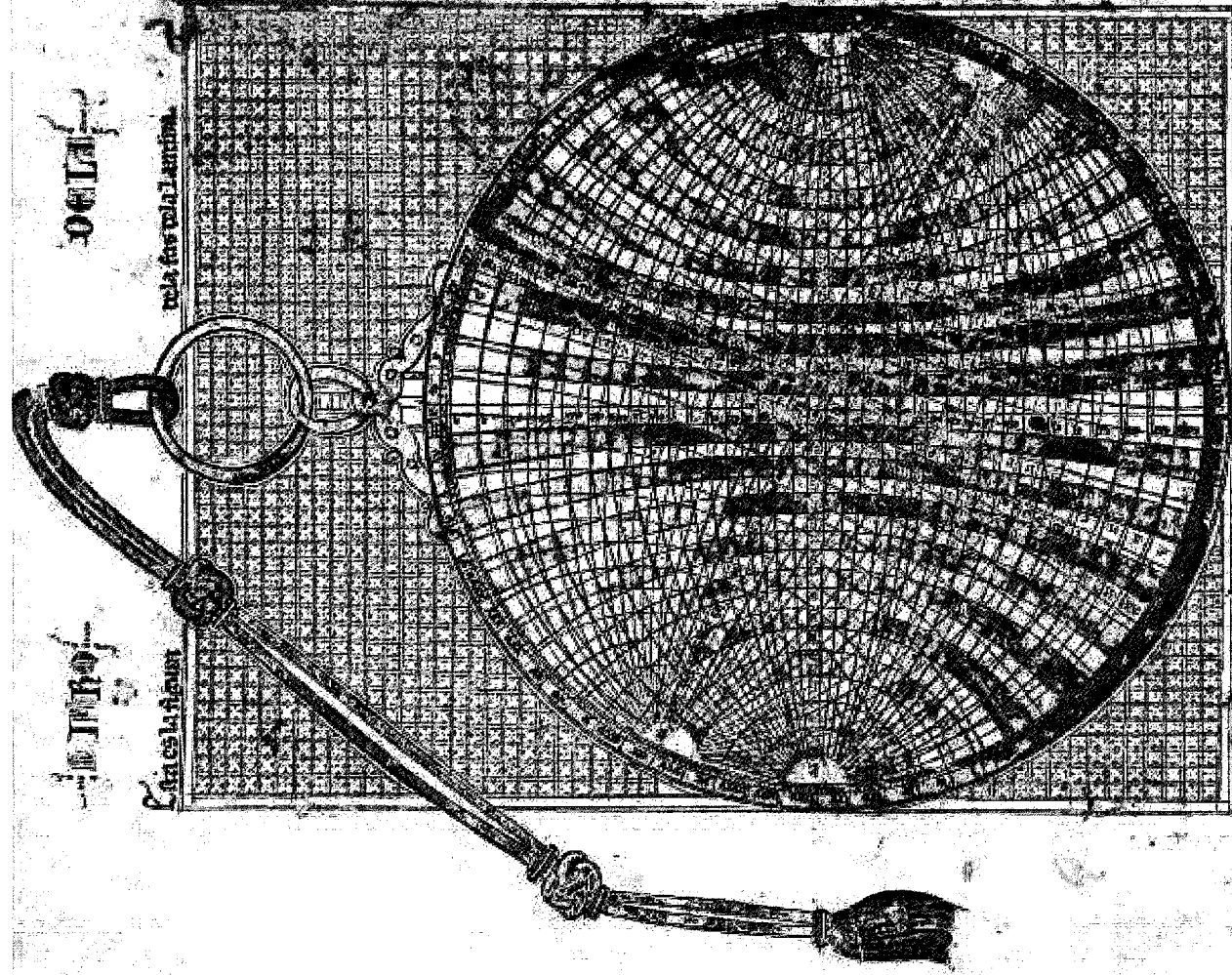
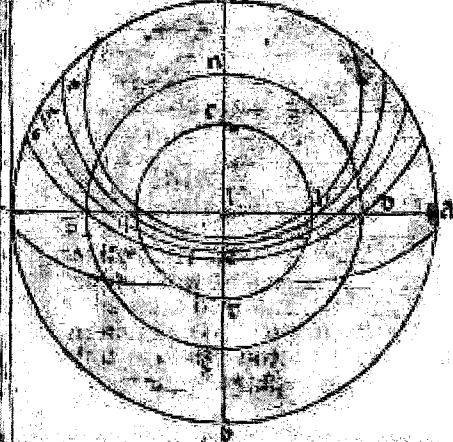


Figure 4: Illustration of a universal astrolabe from the *Libros del saber de astronomia*.<sup>4</sup>

<sup>4</sup> Ibid.

## LIBRO

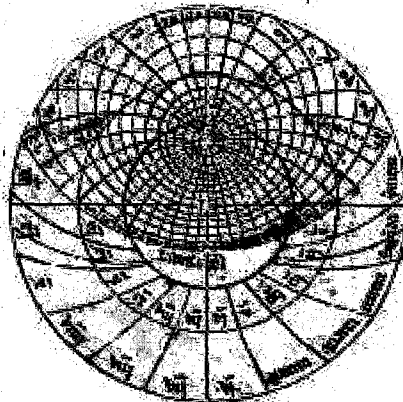
lamina. y feras una fennal en el lugar en q  
que la regla del círculo de canas en la parte  
de oriente. Et después por la regla en el lo  
gar o se afuerza el almanacur de rom.  
de la parte de ponente con el círculo de años  
y libras. y pade la regla por el centro de la  
mucha en qual lugar caier la regla de la par  
te de oriente en el círculo de años y libras el  
fetezendo. feras y otra fennal. Et después  
ponas la regla onofa en el lugar o se afun  
en el almanacur de rom. de la parte de  
ponente con el círculo de canas. y pade por  
el centro de la tierra. y en qual lugar caier  
la regla de la parte de oriente en el arco de  
capricornio. feras y otra fennal tercera. Et  
después feras una pieza de círculo que pade  
por otras tres fennales fiteziedichas. Et fua  
esta pieza la línea del crepuscul de la alia. Et  
en esta manera mifera feras la línea del oro  
crepuscul de la parte de ponente. fiteziedo rei  
almanacur de rom. que es en la parte  
de oriente. así como fiteziedo de la. en la par  
te de ponente. Et esta es la figura de lo q  
dize  
mos.



Capitulo xxviii. De como se tienen fitez  
las otras laminas del astrolabio. fitez  
tras que todas las laminas q  
se fitez en el astrolabio se fa  
zen así como se mostramos fitez  
en esta de que auemos fablado fitez aquí

## PRIMERO

en más momentos. y non se departen las u  
nas de las otras si non en la ladera. Et m  
damos de figurar aquí de como fitez en  
las fennales fiteziedichas en una de las la  
minas del astrolabio. y mandamos la fitez  
alajadera de docto. Et esta es su figura.



Capitulo xix. De como tiene fitez fitez la  
manera en que fitez todas las tablas del  
astrolabio y la red.

Después que auemos dicho y mostr  
do de como se tienen fitez fitez la m  
las otras tablas. auemos aquí fitez de  
como tiene fitez fitez la manera del astrolabio. y  
manera así por q es mayor q todas las otras o  
las q son en el astrolabio. y por q fitez en  
ellas en ella. Et quando la quisiere fitez  
fitez una armella de latón o de qual cosa q  
fitez. y fitez con ella el se como de grado q fitez  
en ella todas las otras. y la red q auemos fitez.  
Et fitez el espacio de dentro de la. tamaño q fitez  
en ella la manera de las tablas. y la manera de la  
manera. q fitez en ella los. et fitez la. y fitez  
y en el espacio del aliento de la. fitez de mostramos  
en este capitulo. Et fitez la bien redonda y bien lina  
ya. y bien igual de otras cosas. y fitez en ella el lo  
gar de la fitez del astrolabio. et es o que fitez el al  
ginto. Et fitez en medio de la fitez una línea de  
rojo. y fitez onofa en medio de la en el campo de  
dentro de la armella un lugar q fitez los fitez

Figure 5: Geometric diagrams in the *Libros del saber de astronomia*.<sup>5</sup>

<sup>5</sup> Ibid.

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