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The Astrological Chart of the Coronation of King Sebastião of Portugal

Carlota Simões

Abstract: The presence of Jewish astrologers in the Portuguese court of the fourteenth and fifteenth centuries is frequently mentioned in the chronicles of the kings. In 1496, King Manuel I forced the Jews to choose between conversion to Catholicism and expulsion. Those noblemen had to leave the court, and many of them also left the kingdom. In 1529, King João III created the position of Royal Cosmographer, the mathematician Pedro Nunes being the first to occupy the position. Pedro Nunes was apparently a severe opponent of astrology except for one episode: a few days before the coronation of King Sebastião in 1568, Pedro Nunes allegedly suggested to the Queen-regent, that she should postpone the ceremony, claiming astrological reasons. Historians relate this episode to a similar one, more than a century earlier, featuring the coronation of King Duarte (Edward) in 1433, and some believe that the alleged incident with King Sebastião may be just one more legend about this charismatic king. In this text we discuss the possibility that Pedro Nunes had actually made and examined the astrological chart for the moment of the coronation of King Sebastião.

The secret advice of Pedro Nunes to Queen Catarina

During the 1920s, the mathematician Gomes Teixeira wrote about some supposed advice from the mathematician and Royal Cosmographer Pedro Nunes given to the regent of the Kingdom of Portugal during the minority of King Sebastião. The advice was given to Sebastião's grandmother, Queen Catarina, a few days before the coronation, suggesting that the ceremony should be postponed, for astrological reasons.

In *Neves de Antanho* [Count of Sabugosa, 1919], we learned with surprise about an act of astrological practice attributed to the great mathematician by Padre José Pereira Bayão, who wrote in the eighteenth century. This act happened in 1568, when King Sebastião turned fourteen years old and the Regent Queen Catarina decided to deliver to him the government of Portugal. A few days before the ceremony, Pedro Nunes approached the Regent Queen to warn her that

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it would be advisable to delay the government handover, because on the chosen day the stars were in an ominous position, and so if the King began to rule on that day, his reign would be unstable, full of anxieties and of short duration. Queen Catarina observed that it was no longer possible to postpone the ceremony [...] But perhaps the Bayão narrative is just another legend (a misrepresentation of an event that happened at the time of King Duarte's coronation, also described by the Count of Sabugosa). ¹

Gomes Teixeira's source was the book *Neves de Antanho*, published in 1919 by the Count of Sabugosa.² Sabugosa, in turn, cited Padre José Pereira Bayão in *Portugal Cuidadoso e Lastimado com a vida e perda do Senhor Rey Dom Sebastião* from 1737:

Everything being ready for the royal act [...] the Royal Cosmographer and Master of Mathematics of the King, Pedro Nunes, approached the Queen two days before, asking her to [...] delay the ceremony by a few days, even if only by just three days, because [...] if the king began to rule on that day his reign would be unstable, full of concern and very short.³

According to Bayão, Pedro Nunes recommended that the Queen postpone the ceremony for at least three days, and the same allusion to the three days appears ten years later in a work by Diogo Barbosa Machado, published in 1747.⁴ There is a previous reference to the episode by Manuel de Faria e Sousa, dating from 1628:

Having turned fourteen years old on Saint Sebastian's day, by taking the sceptre, King Sebastião took charge of the laws

¹ F. Gomes Teixeira, 'Pedro Nunes e a Astrologia', *Conde de Sabugosa: In Memoriam* (Portugália Editora, 1924), pp. 193-195.

² Conde de Sabugosa, *Neves de Antanho* (Lisboa: Portugal-Brasil Limitada, 1919), pp. 197-200.

³ Padre José Pereira Bayão, *Portugal Cuidadoso e Lastimado com a vida e perda do Senhor Rey Dom Sebastião*, (Lisboa Occidental, 1737), p. 101.

⁴ Diogo Barbosa Machado, *Memórias para a História de Portugal que compreendem o governo del Rey D. Sebastião: do ano de 1568 até ao ano 1574.* Tomo III, (Lisboa, 1747), pp. 10-12.

and of the use of weapons, but with the same prediction (by the distinguished Mathematician Pedro Nunes, his Master of Mathematics) as that made to King Duarte that things would not go well if the ceremony was held on that day.⁵

Faria e Sousa's account is more than a century prior to that of Bayão, but without the detail of the three day delay. In the Biblioteca Nacional de Portugal there is an archive of legends, prophecies and myths about King Sebastião, but there are no references to such an episode. Is the episode a legend, as stated by Gomes Teixeira, or a reality?

These authors agree in relating the Pedro Nunes-Queen Catarina incident to a similar one, more than a century earlier, featuring the Jewish astrologer Master Guedelha and the coronation of King Duarte in 1433. The episode is described by Rui de Pina, chronicler of King Manuel I. According to Pina, Master Guedelha asked the King to postpone the ceremony for a few hours:

I ask you as a favour to postpone this event until after midday, and in that [delay], pleasing God, you will have your benefit, and it will be beneficial to your kingdom, because these hours that you decided to be obeyed, reveal to be very dangerous, and of a very sad constellation'. D. Duarte did not follow the advice and Guedelha prognosticated that 'he would reign few years, and these would be of great fatigues and labours.7

There is a possibility that Pedro Nunes had actually made and examined the astrological chart for the moment of the coronation of King Sebastião, a hypothesis that Gomes Teixeira leaves open. Will the analysis of the astronomical ephemerides for the moment of the coronation of King Sebastião (using literature from that period) decide in favour of or against Gomes Teixeira?

⁵ Manuel de Faria e Sousa, Epitome de las Historias Portuguesas, (Madrid, 1628), p. 541.

Codex 400, Profecias Sebastianistas, (Lisboa: Biblioteca Nacional de Portugal).

⁷ Rui de Pina, Chronica do Senhor Rey D. Duarte, at http://digitarq.arquivos.pt/viewer?id=4162613 [accessed on August 29, 2017].

Astrology in the Portuguese court in the fifteenth and sixteenth centuries

The second dynasty of Portugal started with King João I in 1385 and ended after the death of the young King Sebastião in the battle of Alcácer-Quibir in 1578, leaving no descendants. His uncle Filipe II of Spain became Filipe I of Portugal in 1580, after a brief period (1578-1580) when the old, sick, and childless King Henrique, brother-in-law of Queen Catarina, ruled the kingdom. King Sebastião's reign was indeed unstable and short.

The presence of astrologers in the Portuguese court during the kingdoms of King João I to King Afonso V (1385-1481) is mentioned openly in the chronicles of the kings where we find references to astrological birth charts and astrological coronation charts produced by Jewish noblemen living in the court. In 1492 the Jews were expelled from Spain and in 1496 in Portugal, King Manuel I forced them to choose between conversion to Catholicism or expulsion, so Jewish astrologers had to either leave the court or the kingdom or both. In 1529, King João III, son of King Manuel I, created the position of Royal Cosmographer, the mathematician Pedro Nunes being the first to occupy it. Except for the episode related with the coronation of King Sebastião, Pedro Nunes is considered a severe opponent of astrology, referring to it as 'a vain and almost rejected creed which makes judgments about life and fortune'.

In the same way Galileo is now also recognised as an astrologer I discuss the possibility that the rational and sceptical mathematician Pedro Nunes had actually made and examined the astrological chart for the coronation of King Sebastião. Whether or not the conversation between the mathematician and the Queen took place, by analysing the information Pedro Nunes had in the light of the astrological books of the time it may indeed be that the advice would have been precisely to postpone the ceremony by just three days.

⁸ Helena Cristina Ferreira Avelar de Carvalho, *Vir Sapiens Dominabitur Astris, Astrological Knowledge and Practices in the Portuguese Medieval Court (King João I to King Afonso V)*, (Master Thesis, Universidade Nova de Lisboa, 2011).

⁹ Petri Nonii, *De Crepusculis liber unus*, *nũc recẽs & natus et editus* (Olyssipone: Ludouicus Rodericus, 1542).

¹⁰ For Galileo see Noel Swerdlow, 'Galileo's horoscopes', *Journal for the History of Astronomy*, Vol. 35, Part 2, No. 119, (2004): pp. 135-141; Scott Hendrix, 'The contextual rationality of Galileo's astrology', *Culture and Cosmos*, Vol. 18, No. 2, (2014): pp. 71-103.

King Sebastião's horoscope

Although no astrological chart is known for the moment of the coronation of King Sebastião, there is a chart for the moment of his birth by João Baptista Lavanha (1550-1624), Royal Cosmographer since 1591. This is the only known astrological chart for a Portuguese king despite the fact that there are references to horoscopes produced, especially when the position of astrologer existed. The fact that a Royal Cosmographer after Pedro Nunes produced this chart strengthens the idea that the practice continued in the court and that Pedro Nunes probably practised it.

In another codex at the *Biblioteca Nacional de Portugal* there is a horoscope cast for the birth of King Sebastião made by F. Maldonado, one of the doctors who went to Portugal in the entourage of the mother of King Sebastião, Joana de Áustria.¹³

According to Lavanha's chart, King Sebastião was born 19 hours and 18 minutes after the meridian passage of the Sun (i.e., noon) on 19 January 1554, meaning 7:18 am on 20 January 1554. On the other hand, according to the horoscope cast by F. Maldonado, since the ascendant is in Pisces, Mercury, Mars and the Sun are in the twelfth house, Venus in the eleventh, the Moon in the sixth and Saturn in the first the ascendant must be Pisces 1 to 9 degrees, and the time of birth should be between 8.15 and 8.35 am.

The existence of the two horoscopes demonstrate that astrology was practiced at the court of the future King Sebastião. The question is what ephemerides Lavanha used to produce the chart since he did not use the time of birth given by an eye witness and so couldn't know of the existence of the horoscope by Maldonado. Furthermore, he was four years old at the time of the birth and became Royal Cosmographer only in 1591, long after the deaths of both King Sebastião and Pedro Nunes.

¹¹ Codex 887, Relações das cousas principaes q sucederão em Portugal em tempo del Rey D. Sebastião, tiradas de originaes do Reyno per João Bap.ta Lavanha, Cronista mor do Reino de Portugal, (Lisboa: Biblioteca Nacional de Portugal).

¹² Helena Avelar and Luís Ribeiro, *Astrologia Real, A História de Portugal à Luz da Astrologia*. (Cascais: Pergaminho, 2004), pp. 117-118.

¹³ For the horoscope of King Sebastião made by F. Maldonado see Codex 8920, *Textos literários, históricos e políticos em prosa e em verso relacionados com o reinado D. Sebastião, e com D. Catarina de Áustria.* (Lisboa: Biblioteca Nacional de Portugal); for details of his being one of the doctors in the entourage of Joana de Áustria see Harold B. Johnson, *Sebastian, King of Portugal, Four Essays*, (Tucson, Arizona: Four Essays, 2013), p. 12.



Figure 1. Nativity of King Sebastião, by João Baptista Lavanha.

The coronation day of King Sebastião

King Sebastião was crowned king on the day of his fourteenth birthday, 20 January 1568, but the exact time is not known. We will now analyse the ephemerides for that week and check how the horoscope was affected by adjusting the times throughout 20 January 1568 and the following three days in accordance with the alleged advice of Pedro Nunes.

Day (January 1568 JC)	Sun (Aquarius)	Moon	Mercury retrograde (Capricorn)	Venus (Capricorn)
Tues 20	9°15′22″	22°45′ Libra	25°16′	0°34′
Weds 21	10°16′11″	6°23′ Scorpio	24°38′	1°03′
Thur 22	11°17′00″	19°38′	24°07′	1°33′
Fri 23	12°17′47″	2°34′ Sagittarius	23°45′	2°05′
Sat 24	13°18′33″	15°14′	23°32′	2°38′

Table 1: Ephemerides for 00.00 Universal Time of 20-24 January 1568 for Sun, Moon, Mercury and Venus. 14

Day	Mars	Jupiter	Saturn	Lunar North
(January	(Cancer)	(Sagittarius)	(Virgo) retrograde	Node (Libra)
1568 JC)	retrograde			
Tues 20	27°15′	5°23′	26°37′	18°53′
Weds 21	26°54′	5°32′	26°35′	18°50′
Thur 22	26°32′	5°41′	26°32′	18°47′
Fri 23	26°11′	5°50′	26°29′	18°44′
Sat 24	25°51′	5°59′	26°27′	17°40′

Table 2: Ephemerides for 00:00 Universal Time of 20-24 January 1568, for Mars, Jupiter, Saturn and the lunar north node.

During the period under question, only the Moon changed signs, from Libra to Scorpio and then to Sagittarius. The question is what did Pedro Nunes find out? Since he advised the Queen to wait at least three days, whatever he saw was not related to astrological houses as these only depend on the hour of the day. We need to analyse the Moon (the only body that changes its sign) and the aspects between the planets. Since the positions of the Sun, the planets and the lunar north node vary very little over the three days, we need only to analyse the planets in aspect to the Moon.

During the period from 20 to 23 January, the Moon started in Libra, changed to Scorpio at 12:10 pm on 20 February, and then to Sagittarius at

¹⁴ Calculations made by http://www.astro.com.

6:35 pm on 22 February. The Moon was square, first with Mars and Mercury on 20 February and then with the Sun on 21 February. The Moon was sextile Venus on 20 February, sextile Mercury and trine Mars on 21 February and sextile Saturn on 22 February. At 6:35 pm on 22 February, the Moon moved to Sagittarius and started to approach Jupiter. At 8:00 am on 23 February, the Moon and Jupiter were conjunct, and this aspect was still valid at noon that day. The next main issue is to find literature on astrology available to Pedro Nunes that he could use to analyse this data. Gerold Hilty assures the existence of *The Book of the Judgements of the Stars* by Aly Aben Ragel in the Portuguese court, as we show in the next section. ¹⁵ Rage's work may provide an interpretation of the horoscope leading to the advice of Pedro Nunes to the Queen.

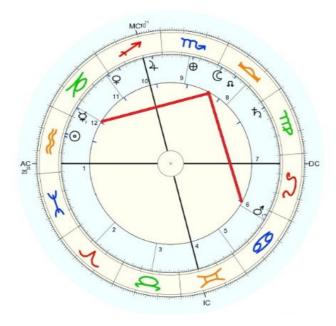


Fig 2A. 20 January 1568, 8 am. Mars square Moon; Moon square Mercury: the Moon is at the end of Libra.

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¹⁵ Gerold Hilty, 'A versão portuguesa do "Livro Cunprido", *Biblos*, Vol. LVIII (Coimbra: Faculdade de Letras da Universidade de Coimbra, 1982), pp. 207-267.

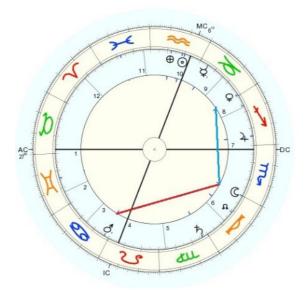


Fig 2B. 20 January 1568, 12 noon. Mars square Moon; Moon sextile Venus. The Moon is in Scorpio.

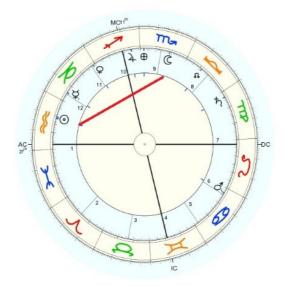


Fig 3A. 21 January 1568, 8 am. The Moon is moving away from square with Mars and square the Sun. The Moon is still in Scorpio.



Fig 3B. 21 January 1568, 12 noon. The Moon square the Sun. The Moon is in Scorpio.

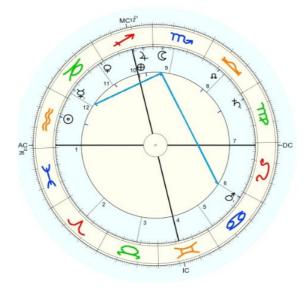


Fig. 4A. 21 January, 8 am. Moon sextile Mercury and trine Mars. The Moon is still in Scorpio.

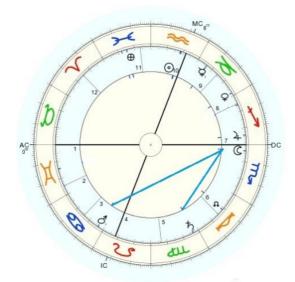


Fig 4B. 22 January, 12 noon. Moon trine Mars; Moon sextile Saturn. The Moon is about to leave Scorpio approaching Jupiter in Sagittarius.

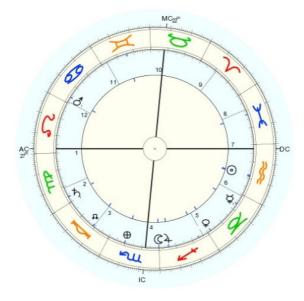


Fig 4C. 22 January, 6.35 pm. The Moon is finally in Sagittarius and reaches conjunction with Jupiter but it is too late for the ceremony since the Sun is below the horizon; it is already evening.

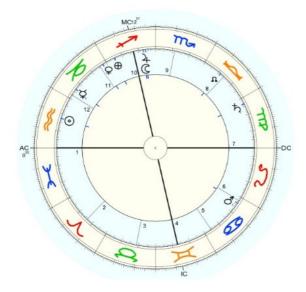


Fig 5A. 23 January, 8 am. The day starts with Moon conjunct Jupiter in Sagittarius.



Fig 5B. 23 January, 12 noon. Moon and Jupiter are still conjunct in Sagittarius.

Aben Ragel's The Book of the Judgements of the Stars

Luciano Pereira da Silva observed that, according to the *Book of Hunting*, dating from the reign of King João I (1385-1433), the royal library contained the translation into Castilian of the work of the famous astrologer Aly Aben Ragel (Abū l-Hasan 'Alī ibn Abī l-Rijāl al-Shayban) El Libro Conplido en los Iudizios de las Estrellas. 16 This was in addition to other astronomical works including Ptolemy's Almagest, Sacrobosco's Treatise on the Sphere, Gerardo de Cremona's Theory of Planets, at least one of the works of Albumazar, and 'the great book of astronomy by João Gil de Castiello, written by order of Pedro of Aragon'. ¹⁷ The translation of Aly Aben Ragel's work into Castilian by Yehuda fi de Mosse dates from 1254, and had been ordered by King Alfonso X of Castile. 18 Some authors claim that King Dinis of Portugal (1279-1325) received the book as a present from King Alfonso X of Castile, his grandfather. Pereira da Silva (1924) refers to Rico y Sinobas (1863), who in turn refers to Marquis of Mondejar (1777), from whose text one cannot draw any conclusion: 'Visiting the Infante [Dinis] his grandfather [Alfonso], went with him to Jaén, from where [Alfonso] sent him back to Portugal, [...] with many jewels and gifts.'19 It should be noted, however, that Rico y Sinobas carefully states that the indications of the Marquis of Mondejar are indeterminate. It is also possible, as Hilty proposes, that Jewish astrologers of Spanish origin, who after the persecutions of 1391 took refuge in Portugal, may have taken with them the Castilian version of the Livro Conprido.2

¹⁶ Luciano Pereira da Silva, 'O Astrólogo João Gil e o Livro da Montaria', *Obras Completas de Luciano Pereira da Silva*, Vol. III (Lisboa: Agência Geral das Colónias, 1943), p. 52.

¹⁷ Francisco Maria Esteves Pereira, *Livro da Montaria feito por D. João I, Rei de Portugal, Livro da Montaria, conforme o manuscrito nº 4352 da Biblioteca Nacional de Lisboa* (Coimbra: Imprensa da Universidade, 1918).

¹⁸ Hilty, 'A versão portuguesa', p. 220.

¹⁹ For Pereira da Silva see Silva, 'O Astrólogo João Gil', p. 52; Manuel Rico y Sinobas (ed.), *Libros del saber de astronomia del Rey D. Alfonso X de Castilla*. (Madrid, 1863), Tomo I, p. LXX; for Rico y Sinobas see Manuel Rico y Sinobas (ed.), *Libros del saber de astronomia del Rey D. Alfonso X de Castilla*. (Madrid, 1863), Tomo I, p. LXX; for quotation from the Marquis of Mondejar see Marques de Mondejar, *Memorias Historicas del Rei D. Alonso el Sabio*, (Madrid, 1777), p. 89.

²⁰ Hilty, 'A versão portuguesa', p. 264.

A manuscript with part of the Libro Conplido (Parts 1 to 5) in Castilian is in the Biblioteca Nacional de Madrid.²¹ In the Bodleian Library of Oxford there is a manuscript of part of the book (Parts 4 to 8) in Portuguese written with Hebraic characters which Gerold Hilty proved to have been translated directly from the Castilian version.²² It may not be known how El Libro Conplido en los Iudizios de las Estrellas arrived in Portugal, but its existence in the library of King João I is a fact. The book was translated into Portuguese by José de Guedelha Franco in 1411, during the reign of King João I.²³ The text, entitled *Livro Cunprido en os* Juizos das Estrelas, was banned in Portugal during the sixteenth century, becoming part of the Portuguese Index in 1561 and in 1581. It was purchased by John Dee on 8 January 1563, in Leuven where many Portuguese Jewish emigrants lived, among whom were several members of the Franco family.²⁴ John Dee was the astrologer of Queen Elizabeth I, being responsible for choosing the day and exact time of her coronation. He was a correspondent and great admirer of Pedro Nunes as well. Although no exchange of letters between them is known of, in a letter to Gerardus Mercator in 1558, Dee asked Mercator to hand over all his works to Pedro Nunes if he (Dee) died prematurely:

And if my work cannot be finished or published while I remain alive, I have bequeathed it to that most learned and grave man who is the sole relic and ornament and prop of the mathematical arts among us, D. D. Pedro Nuñes, of Salacia, and not long since prayed him strenuously that, if this work of mine should be brought to him after my death, he would kindly and humanely take it under his protection and use it in every way as if it were his own: that he would deign to complete it, finally, correct it, and polish it for the public use of philosophers as if it were entirely his.²⁵

²¹ Codex 3065, *El Libro Conplido en los Iudizios de las Estrellas*, (Biblioteca Nacional de Madrid).

²² Codex Laud or. 310, (Oxford: Bodleian Library).

²³ Hilty, 'A versão portuguesa', pp. 243-244.

²⁴ Hilty, 'A versão portuguesa', p. 264.

²⁵ Bruno Almeida, 'On the origins of Dee's mathematical programme: the John Dee-Pedro Nunes connection'. *Studies in History and Philosophy of Science* Part A 43 (3) (2012) pp. 460-469. doi:10.1016/j.shpsa.2011.12.004.

Nowadays, the Castilian version of Parts 1 to 5 and the Portuguese version of Parts 4 to 8 give us access to the complete work, carefully edited and annotated by Gerold Hilty. But did Pedro Nunes know of this work? As Royal Cosmographer of the Kingdom of Portugal since 1529, he would have been unlikely not to have known of it since he would have had direct access to books existing in the library related to his position, and to that book in particular. What did the *Livro Conprido* contain that could justify Pedro Nunes' advice to the Queen? Part Seven of *Livro Conprido* is devoted entirely to 'elections of the stars and the beginnings of things': 'in this part of the book I gathered all elections of stars and beginnings of things and I gathered them and I settled them the best I could as my knowledge could reach'. In Part Seven, Chapter 3 (*in signis et suis significationibus*), we read:

When you want to start something [...] put the Moon and the ascendant in the signs convenient to that thing you want and put the Moon with the fortunes to which those signs are favourable.²⁸

When you want to start an act, improve the ascendant and its Lord, and the Moon and the Lord of her house, and save yourself from her bad states.²⁹

Among the bad states of the Moon, the passage on the seventh says the following:

The seventh [bad state] is when the Moon [...] is at the end of Libra and the beginning of Scorpio, and that is the worst of all misfortunes of the Moon.³⁰

In Part Seven, Chapter 81 (in recipiendo dignitatem), we read:

Aly Aben Ragel, El libro Conplido en los Iudizios de las Estrellas. Partes 1 a 5. Introducción y edición por Gerold Hilty. Prólogo de Arnald Steiger (Madrid: Real Academia Española, 1954); Ragel, Aly Aben, El Libro Conplido en los Iudizios de las Estrellas. Partes 6 a 8. Introducción y edición de Gerold Hilty, con la colaboración de Luis Miguel Vicente García (Zaragoza: Instituto de Estudios Islámicos y del Oriente Próximo, 2005).

²⁷ Ragel, El Libro Conplido Partes 6 a 8, p. 87.

²⁸ Ragel, El Libro Conplido Partes 6 a 8, p. 99.

²⁹ Ragel, El Libro Conplido Partes 6 a 8, p. 100.

³⁰ Ragel, El Libro Conplido Partes 6 a 8, p. 100.

The good election to receive crowns and kingdoms is when the Moon is clean and safe and in no house of misfortune.³¹

In Part Eight, Chapter 25 is about 'knowing the meaning of the approaches of the planets with each other'. ³² In this we read:

The meaning of the conjunction of the Moon with Mars and their approaches: When the Moon and Mars are put together, it means new lies and leakage of blood [...]. And if this approach is a quadrature [...], it means malfeasance concerning the King and stealing and taking by force.³³

The meaning of the conjunction of the Moon with Jupiter and their approaches: When the Moon and Jupiter are put together, it means that men are involved with goodness, with the practice of the law, with filling the churches and oratories, with the pursuit of law and its knowledge and with love for being named by it.³⁴

If Pedro Nunes did indeed cast the astrological chart for the coronation of King Sebastião, he must have seen that on 20 January 1568 the Moon was in the worst possible position: placed at the end of Libra and at the beginning of Scorpio and square Mars. The Moon left Scorpio only in the evening of 22 January, too late for a coronation. On 23 January it would finally have been in a favourable position, in Sagittarius and conjunct Jupiter. We shall never know if that conversation between the mathematician and the Queen ever took place, but by analysing the information Pedro Nunes had in the light of the astrological books of the time, particularly the one by Aly Aben Ragel, we see that the advice given would have been precisely to postpone the ceremony by just three days. Albeit partially, we hope to have responded to the Count of Sabugosa when he said 'who knows if one day Science in its walk will not give reason to Master Guedelha and to Dr. Pedro Nunes'. 35

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³¹ Ragel, El Libro Conplido Partes 6 a 8, p. 156.

³² Ragel, El Libro Conplido Partes 6 a 8, p. 278.

³³ Ragel, El Libro Conplido Partes 6 a 8, p. 285.

³⁴ Ragel, El Libro Conplido Partes 6 a 8, p. 283.

³⁵ Conde de Sabugosa, *Neves de Antanho* (Lisboa: Portugal-Brasil Limitada, 1919), p. 199.