

# ASTROLOGY AND RELIGION IN THE ZOROASTRIAN PAHLAVI TEXTS\*

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## Abstract

This article overviews the references to astrology found in the Zoroastrian religious texts in Middle Persian (or Pahlavi) dating from the Sasanian period to the 10<sup>th</sup> century. Through their analysis, it highlights how astrology was integrated in the Zoroastrian doctrinal corpus from the Sasanian times to the early Islamic period. The basic view underlying the astrological references in the Pahlavi texts, is that the good astral entities (which include the zodiacal constellations, the sun, and the moon), fight against the evil astral entities (which include planets and lunar nodes). The main astrological doctrines documented in these texts are that of the horoscope of birth of the world and of Gayōmard (the first man), the astrological explanation of the death of Gayōmard at age 30, the millenary chronocratoria, that is, the rule over time, of zodiacal constellations and of Saturn, and the melothesia, that is, the attribution of the parts of the body, to celestial entities. The article argues that these doctrines express the Zoroastrian view that the malefic influence of the evil astral bodies contributes to the pollution characterizing the present state of existence of the world. The article also touches upon astrological doctrines documented in Zoroastrian New Persian texts.

*Keywords:* Astrology – Sasanian Zoroastrianism – Early Islamic Zoroastrianism — Avesta – Pahlavi literature – Zand literature – Magi– Zurvanism – Horoscope of the world – Chronocratoria – Melothesia – New Persian Literature

## INTRODUCTION

This article focuses on the way in which astrology was integrated into the corpus of the Zoroastrian doctrines in the Sasanian and early Islamic periods<sup>1</sup>. It is based on an analysis of the texts that have come down to us of the *zand* type (that is, commented Pahlavi translations of the Avesta), and of the Pahlavi religious books. The *zand* texts that we have received date from different times following the fall of the Sasanian empire, but their contents are, generally, ultimately of Sasanian origin. The Pahlavi religious books date mostly from the 9<sup>th</sup> and 10<sup>th</sup> centuries, but their contents are rooted, or at least have as a point of reference, the Sasanian collection of Middle Persian versions of the Avestan texts, the *Zand*<sup>2</sup>.

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<sup>1</sup> The article takes into account only the doctrines pertaining to astrology in the strict sense, as a doctrinal system which, in its full-fledged form, did not come to existence before the 2<sup>nd</sup> century BCE. An informative survey of the history of astrology and of its doctrines is Pingree 1973.

<sup>2</sup> For general information on the Pahlavi literature, see Macuch 2009, with further references. On the Pahlavi commented versions of the Avestan texts in particular, notations and references can be found in Cantera 2015.

These two groups of texts are the only direct sources of information about the interaction between astrology and Zoroastrian theology in the Sasanian period, and in the first centuries following it<sup>3</sup>.

## ZOROASTRIAN ASTROLOGY BEFORE THE SASANIANS

Before proceeding, it is important to note that it appears certain that, by the Achaemenid period, Zoroastrian priests had some knowledge of Mesopotamian astral mantic and proto-astrology<sup>4</sup>. Nevertheless, if and how these disciplines had an impact on the Zoroastrian theology in the Achaemenid period and, later, in the Seleucid and early Parthian periods, can only be a matter for speculation. It also appears very likely that astrology was

<sup>3</sup> A few passages with astrological content are found in the Pahlavi secular texts (see Raffaelli 2001: 43, 46–47 for some references). None of the views on astrological matters expressed in these passages are in contrast with those found in the Pahlavi religious books (see also the notes later in the present article on some passages of the secular texts *Wizārišn ī čatrang* and *Šahrestānīhā ī Ērānšahr*).

<sup>4</sup> Note in this respect that in all likelihood the knowledge of the planets and of the zodiacal signs was transmitted to Iran from Mesopotamia in the Achaemenid period: see Raffaelli 2001: 17–20 for more information. See also the observations on the circulation of Mesopotamian astronomical and proto-astrological notions in Achaemenid Iran in Panaino 1992: 25–28; 2004a: 217–18.

known to Zoroastrian priests at some point during the Parthian era (the period to which we may attribute its introduction into the Iranian world). Nevertheless, we cannot establish with certainty the role that astrology played in Zoroastrian Parthian theology. In fact, we have no indisputable source of information on the interaction between astral sciences and religion in Iran before the Sasanian period. No real help in this respect comes from the pseudo-epigraphic texts of astral topic in Greek attributed to Zoroaster, which were produced starting from the Hellenistic period. Indeed, the portion of this textual material that dates from before the Sasanian era has no clear connection with Iranian traditions<sup>5</sup>. No proof of the Zoroastrian priests' mastery of the interpretation of the movements of the stars can then be recognized in the episode (2.1–12) of the *Gospel of Matthew* (a text produced during the Parthian period) describing the visitation to the infant Jesus by some Magi, who were led to him by a star. The reference to Zoroastrian priests following a star, in fact, clearly plays with a misconception held by part of the early audience of the *Gospel*, who fused and confused the identity and the activities of the Magi with those of the real experts in the art of star-telling, the Chaldeans of Mesopotamia<sup>6</sup>. Similarly, uncertain is the truthfulness of the testimony of the Talmud regarding the astrological knowledge of Ablat, who was supposedly a Magus living in Babylonia, probably between the end of the Parthian period and the early Sasanian period<sup>7</sup>. Even if Ablat was indeed a Parthian Magus versed in astrology, his isolated figure would not give strong support to the hypothesis of the familiarity with this art of the Parthian Magi in general. We also have to keep in mind that he would have lived in Mesopotamia, where astrology has its roots. In line with the last point, we must observe that the study of the cultural and religious history of the Iranian communities of the diaspora in the pre-Sasanian period gives little or no any help in reconstructing the dialectic between astrology and Zoroastrian theology before the Sasanian times, as these

communities were heavily exposed, from the beginning and throughout their history, to multifarious cultural influences.

#### ASTROLOGY AND SASANIAN ZOROASTRIANISM

In the Sasanian era, astrological doctrines were included in the sacred textual corpus. This inclusion is demonstrated by the presence of astrological passages in the Pahlavi religious books, and is clearly and explicitly mentioned at one point of the fourth book of the *Dēnkard* (the most important Pahlavi text, which dates from the 10<sup>th</sup> century). According to it (*Dēnkart* 1966: 511 [321], ll. 13–18), the emperor Šābuhr I (r. 239/40–270/72 CE) joined back to the Avesta the writings relating to different scientific and philosophical doctrines, among which the *star-gōwišnīh* (lit. “star-telling,” a word denoting both astronomy and astrology), that had been dispersed to India, Byzantium, and other lands (*Hindūgān ud Hrōm ud abārīg zamīgihā*). Of course, the reference in this passage to Avestan astrological texts that were dispersed to other lands is a fictional motif (the composition of texts in Avestan having ended by the 4<sup>th</sup> century BCE, and thus pre-dating the birth of astrology). By using this motif, the *Dēnkard* justifies the presence in the Sasanian sacred corpus (and specifically in the Pahlavi commentary to the Avesta) of doctrines relating to astrology, a system of knowledge that was originally foreign to Iranian wisdom. The text presents these doctrines, in fact, as ultimately originating from Iran<sup>8</sup>. It is interesting to observe that elements in common with the narration provided in this passage can also be found in other Pahlavi, Islamic, and Greek sources dealing with the (legendary) history of pre-Islamic Iranian sciences<sup>9</sup>. Particularly interesting information is present in the description of the history of science found in one part of Ibn Nawbakht's (8<sup>th</sup> century) *Kitāb al-Nahmaṭān* that is quoted in the *Kitāb al-Fihrist* of Ibn al-Nadīm (c. 987–88). Similarly to the *Dēnkard*, Ibn Nawbakht presents Šābuhr I as promoting the translation into Pahlavi of some Greek and Indian astrological (or astronomical) texts (which, later, Husraw I, r. 531–579, had re-edited)<sup>10</sup>. It is worth men-

<sup>5</sup> Beck, in 1991, has correctly stressed, with much emphasis, the general lack of an Iranian background of the pre-Islamic Zoroastrian pseudepigraphic literature. In this study, see especially the general observations on pp. 491–511, with the conclusions on pp. 564–65, and the notes on the works attributed to Zoroaster on pp. 521–39. Beck reiterates his considerations in his *Encyclopaedia Iranica* article of 2002. Note that Beck's view contrasts with the one proposed in the important work Bidez–Cumont 1938, where the Greek pseudepigraphs attributed to Iranian authors are seen as originating from members of the Magusaeen communities of Iranian origin, which starting from the Achaemenid period lived in Asia Minor.

<sup>6</sup> This episode, and its cultural legacy, has been analyzed in depth by Panaino both in 2004b (where see in particular pp. 10–16, 24–32, and 53), and in 2012 (where see particularly pp. 37–68 and 116–57).

<sup>7</sup> See *Babylonian Talmud, Tractate Shabbat* f. 156b. Further references on Ablat in Neusner 1969: 171, with n. 1.

<sup>8</sup> See the translation and the notes on the portion of *Dēnkard* 4 that includes the passage in question in Shaked 1994: 99–106, with further references. See also its edition and translation in Cereti 2001: 59–61.

<sup>9</sup> For references see Van Bladel 2009: 33–37.

<sup>10</sup> Some observations on Ibn Nawbakht's history of science have been presented most recently by Van Bladel in his book (2009) devoted to the figure of Hermes in the Arabic literature (see pp. 30–39, and also p. 234), as well as by Cottrell in her detailed review of the latter book (2015, which see also for references to other studies dealing with Ibn Nawbakht's history; see especially pp. 392–401, which include the translation of the entire passage of the *Kitāb al-Nahmaṭān* quoted by Ibn al-Nadīm). One point of Cottrell's review is of relevance for the

tioning that the references to the presence in Sasanian Iran of astrological writings of Western and Indian origin finds correspondence in the presence, in Sasanian astrology, of several doctrines of Greek or Indian origin<sup>11</sup>.

Another passage of *Dk.* 4 (*Dēnkart* 1966: 498 [334], l. 22–497 [335], l. 13), appears to make reference to the fact that in the Sasanian period, foreign texts relating to different disciplines were combined with the religious literature. One of these disciplines was astrology (which the text calls by the Sanskrit loanword *horā*)<sup>12</sup>.

The interest of the Zoroastrian priests in astrology, which in the Sasanian period made them include this system of knowledge even in their religious corpus, probably originates from the fact that astrology could be used as an instrument to analyze the course of history, which according to Zoroastrian theology gradually moves towards its positive ending<sup>13</sup>.

It must be noted here that astrology was undoubtedly popular, in the Sasanian and early Islamic periods, in Zurvanism, the Zoroastrian current that considered Zurwān, the divine entity personifying time, as the first god<sup>14</sup>. Zurvanites could in fact use astrology to study the passing of time, in which they were certainly interested, given their view of the divine world. Unfortunately, we

present discussion, that is, the opposition to Van Bladel's claim that translations of Hermes' text, and of other Greek astrological texts, existed indeed as early as Šābuhr's time. Cottrell rather attributes the translation of Greek astrological works into Middle Persian to the reign of Husraw I (531–579 CE; see especially pp. 376–77). Although Cottrell is certainly right in pointing out some weaknesses of Van Bladel's arguments, her review does not acknowledge that the astral bodies were included in the Zoroastrian worldview from a very early phase, and that there is no reason to doubt that astrology was known and popular in Iran already in the early Sasanian period, inside and outside Zoroastrian religious circles. Therefore, although neither the *Dēnkard*'s, nor Ibn Nāwbakht's account, or any other account on the history of sciences in pre-Islamic Iran, can be classified as historical, their references to the existence of Greek and other foreign astrological texts in early Sasanian Iran may indeed contain an echo of a historical truth.

<sup>11</sup> The Sasanian astrological doctrinal corpus can be reconstructed from the Pahlavi texts and, especially, from other post-Sasanian sources (principally Arabic texts). For an overview of it, see Raffaelli 2001: 17–30, with further references. In the same book (especially in the introductory part, pp. 13–49) can be found other general references on Sasanian astrology, and relative bibliographic information (to which add Pingree 2004; the already quoted Panaino 2004a and the overviews by the same author 2009 and 2015: 245–46, 248–56).

<sup>12</sup> The text of *Dēnkart* 1966: 498 [334], l. 22–497 [335], l. 5 is edited and translated in de Menasce 1949: 1–3; *Dēnkart* 1966: 497 [335], ll. 4–13 is translated in Zaehner 1955: 139, and edited on p. 145 of the same work. On the entire passage, see also Cereti 1994–95: 120–21, 128, with further references.

<sup>13</sup> See also the considerations on time in Zoroastrianism in Panaino 2003a and 2003b; 2015: 238–41.

<sup>14</sup> For more information on Zurvanism, and further references, see first of all the important article Shaked 1992, and more recently de Jong 2014; see also the study Rezaia 2010, which includes the translation of relevant primary sources.

can reconstruct only very loosely the astrological corpus of Zurvanism. No reference to astrological doctrines is found, in fact, in the non-Zoroastrian texts from the Sasanian era and the early centuries after it, that document Zurvanite theology. We cannot gather any information on astrology in Zurvanism from the Pahlavi literature either, as no text or passage of this corpus can be identified as Zurvanite (or even as influenced by Zurvanism, as done by some past scholarship<sup>15</sup>). Astrological contents are found only in two works containing Zurvanite ideas, which are later than the period of production of the Pahlavi literature (both of them are in New Persian), although a portion of their contents most likely originates from the early Islamic times at the latest. One of these works is the second *'Ulamā-yi Islām*, a text of which only the *terminus ante quem*, 1527, is certain<sup>16</sup>. The other work is one that is included in the *Rivāyat* of Dastūr Barzū Kāmdīn (which dates from mid-17<sup>th</sup> century; as already done by de Blois in 2007, this work will here be called after its initial words, *Dar Āfrīnīsh-i jahān*)<sup>17</sup>. One portion of these two texts is almost identical<sup>18</sup>. Some of their astrological notions are the same as those present in the Pahlavi religious literature, whereas others differ from them; the latter notions, though, can hardly be classified as Zurvanite (see later in the present article for more information). The analysis of the *'Ulamā* and of the *Dar Āfrīnīsh* suggests, then, that Zurvanism did not include any astrological views that clashed with those expressed in the Pahlavi religious texts.

#### ASTROLOGICAL DOCTRINES IN THE PAHLAVI TEXTS

Turning now to the astrological contents of the Pahlavi religious sources, we have to observe first of all that it is hard to reconstruct the role of astrology in the *zand* texts, since most of this sacred corpus has been lost. Importantly, the detailed summary of the canon of 21 sections (*Nasks*) of the Sasanian Avesta,<sup>19</sup> contained in

<sup>15</sup> The erroneousness of this perspective was first noted by Shaked in 1992: 226–27.

<sup>16</sup> On the dating of this text see Colapaoli 2005: 77–79 and de Blois 2007: 203, n. 14. See Colapaoli 2005: 8–83, 88–90 and 92 for an edition and translation of its astrological passages; in Colapaoli's study can also be found other bibliographic references on the *'Ulamā*, to which add Adhami 2006 and de Blois 2007.

<sup>17</sup> The larger part of this text is edited in Spiegel 1856–60, 2: 161–63. It is found in its entirety in Unvala 1922, 2: 62, l. 1–66, l. 15. For its translation, see Dhabhar 1932: 428–31; one part of it is also translated in Zaehner 1955: 416–17. A brief overview of its contents can be found in Raffaelli 2001: 139–40.

<sup>18</sup> A possible explanation of this similarity is in de Blois 2007: 203–4.

<sup>19</sup> The Sasanian Avesta, which included a Pahlavi commented version of the texts, is now lost.

the 8<sup>th</sup> book of the *Dēnkard* (a summary that is based on the Pahlavi commented translation of the *Nasks* themselves), does not appear to make any explicit reference to astrology<sup>20</sup>. This might indicate that the Pahlavi version of the Sasanian Avesta did not include extensive portions dealing with astrology. It is also possible that the author of the *Dēnkard* summary did not perceive the astrological doctrines as distinct from the other themes with which the *Nasks* dealt, perhaps because they were perfectly integrated with these themes. It may be added that *Dēnkard* 8 describes only very briefly the contents of a section of the Sasanian Avesta that is very likely to have contained (in its Pahlavi version) astrological portions, the *Dāmdād Nask*<sup>21</sup>. The *Dēnkard*, furthermore, does not describe at all the *Naxtar Nask*, which according to some sources later than the 10<sup>th</sup> century, dealt with astrological topics<sup>22</sup>.

In the *zand* texts that have come down to us, we find only some traces of astrological notions. Two passages (found in *Pahl. S.* 1.3 and 1.27) refer to the role of the firmament (*spāš*), or of the sky (*asmān*), in influencing human fate<sup>23</sup>. Additionally, a passage of *Pahl. Ny.* 3.4

<sup>20</sup> For the text of *Dēnkard* 8, see: *Dēnkard* 1966: 305 [526], l. 4–301 [530], l. 22; 114 [64], l. 1–97 [98], l. 6; 299 [531], l. 1–266 [69], l. 22; 96 [99], l. 1–83 [125], l. 14; 264 [565], l. 1–245 [584], l. 22; 83 [126], l. 1–77 [137], l. 12. A translation of this book can be found in West 1892: 3–171.

<sup>21</sup> As we know from the descriptions found in some Pahlavi and New Persian sources, this *Nask* dealt with cosmic history (see MacKenzie 1993 for more information). Probably, as hypothesized by MacKenzie in 1993, the *Dāmdād Nask* was one of the main sources of the *Bundahišn*, the Pahlavi book that is the richest in astrological doctrines (the oldest description of this *Nask*, found in *Dk* 8.5, closely reminds one in fact of the contents of this work: the translation of this *Dēnkard* passage can be found in MacKenzie 1993; for its text, see *Dēnkard* 1966: 302 [529], l. 21–301 [530], l. 7). It is reasonable therefore to assume that the *Dāmdād Nask* included parts of astrological content. A further indication in this sense comes from *Pahl. Ny.* 3.4, a passage having some echoes of astrological notions (see below in the present article), which at its end mentions this *Nask*, apparently as its source.

<sup>22</sup> The *Dēnkard* (8.6) notes that the *zand* of the *Naxtar Nask* has been lost (text of the passage in *Dēnkard* 1966: 301 [530], ll. 7–9; for a translation of it see West 1892: 15). Descriptions of the contents of this *Nask* are found in the New Persian *Rivāyats* of Kāmā Buhārā, of Narimān Hušang, and of Dastūr Barzū Kāmdīn, as well as in the *Dīni Vajarkard* (a work in Pahlavi script, but whose language is judged by West, in 1892: 438, n. 1, as “more Persian than Pahlavi”). For these passages, see respectively: Unvala 1922, 1: 5, ll. 1–4 and West 1892: 422; Unvala 1922, 2: 393, ll. 5–6 and West 1892: 430; Unvala 1922, 2: 437, ll. 1–4; West 1892: 441. It must be mentioned here that according to some scholars (references in Belardi 1977: 146, with n. 5), the name *naxtar* is to be placed in relation with Skt. *nakṣatra-* (heavenly body, lunar mansion), but this interpretation is very uncertain.

<sup>23</sup> For the passage of *Pahl. S.* 1.3 in question, see Raffaelli 2014: 85–86 (and see also p. 169, with the text and translation of a similar passage found in § 34 of chapter 26 of the *Bundahišn*; the two passages probably derive from a common, now lost, sacred source: see again Raffaelli 2014: 38–39). For the passage of *Pahl. S.* 1.27, see Raffaelli 2014: 113, with the commentary notes on p. 269.

states that the power of the planets decreases and increases according to whether the moon waxes or wanes (which implies the view that the moon, a benefic astral body, is an enemy of the planets, which are malefic: see below in the present article on this enmity)<sup>24</sup>.

We must also mention three brief astrological passages found in the *Zand ī Wahman Yasn*, a Pahlavi work dating from the 9<sup>th</sup> or 10<sup>th</sup> century, whose contents are presented as stemming from the commented Pahlavi translation of an undocumented hymn to the deity *Wahman*<sup>25</sup>. We cannot be certain that this latter claim is true<sup>26</sup> but even if it is false, the presence of astrological passages in the text would reflect the fact that in early Islamic Zoroastrianism astrology was perceived as a topic compatible with the contents of the sacred literature.

Much richer in astrological contents than the Middle Persian texts mentioned above are the Pahlavi religious books. As a whole, these works contain a small set of astrological notions that they deal with overall consistently<sup>27</sup>. Possibly, this consistency is due to the fact that these notions have a common origin in the Sasanian *Zand*. Minor differences that are observed in these texts’ treatment of astrological doctrines may derive from different opinions expressed in the *Zand*, or may be attributed to the authors of the texts themselves.

The Pahlavi religious book that is the richest in astrological contents is the *Bundahišn* (a miscellaneous work whose last important redaction probably dates from around the end of the 9<sup>th</sup> century)<sup>28</sup>. Most of the astrological doctrines present in this text are found in its section 5 (which is formed by chapters 5, 5a, and 5b)<sup>29</sup>. At the beginning of chapter 5a is said *pad dēn gōwēd kū* (it says in the Religion [= in the sacred corpus]), a sentence commonly introducing real or fictitious quotations from the *Zand*.

<sup>24</sup> For this passage, see Panaino 2000: 465, with the observations on pp. 471–75.

<sup>25</sup> For more information on these astrological passages, see below in the present article.

<sup>26</sup> On the scholarly discussion on the origin of the *Zand ī Wahman Yasn*, and on the related debate on the date of the textual material it contains, see Cereti 1995: 15–27, with further references, to which add Cereti 1996; Grenet 2006–7: 108–9; 2007–8: 109–12.

<sup>27</sup> An overview of the astrological contents of the Pahlavi religious books can be found in Raffaelli 2001: 43–47.

<sup>28</sup> An English translation of the *Bundahišn* is in Anklesaria 1956. The most recent edition of the text is by Pakzad (2005). Some notes and further references on it are in MacKenzie 1990 and in Macuch 2009: 137–39.

<sup>29</sup> Raffaelli 2009a analyzes this section of the *Bundahišn*. Raffaelli 2001 provides, on pp. 67–77, 78–80, and 81–119, an edition, translation, and commentary of *Bd.* 5a. An edition of chapter 5 of the text is in Pakzad 2005: 70–75; a partial translation of it can be found in MacKenzie 1964: 512–13, and a complete translation is in Anklesaria 1956: 55–59. For chapter 5b see the edition in Pakzad 2005: 81–88, and the translation in MacKenzie 1964: 517–22.

At the beginning of the last paragraph of the section (5b.22), then, is found the statement *ud abārīg axtar-āmārān paydāg bē gōwizārīhātār ān ī az weh dēn ī maz-dēsān paydāg* (and other astrological questions are manifest, but those that are manifest from the good Mazdean religion are manifest with more details). These framing sentences suggest that the author of this section conceived it as a sort of mini-repertoire of the main astrological doctrines of the Zoroastrian sacred corpus.

Among the other Pahlavi religious books having astrological contents, most interesting are three other miscellaneous religious works: the *Škand Gumānīg Wizār* (dating from the 9<sup>th</sup> century), specifically its chapter 4<sup>30</sup>; the *Dādestān ī Mēnōg ī Xrad* (probably dating from the late Sasanian times)<sup>31</sup>; and the *Anthologies* by the late 9<sup>th</sup> century priest Zādspram (*Wizīdagīhā ī Zādspram*)<sup>32</sup>.

In the corpus of the Pahlavi religious, we encounter first of all the basic astrological belief that the heavenly bodies have an influence on the fate of humans and of the world (a belief that, as mentioned above, is also expressed in the Pahlavi versions of the Avesta).

The celestial world is presented as a battlefield between good and evil heavenly bodies, and therefore as involved in the clash between good and evil entities that animates the cosmic life according to Zoroastrian theology<sup>33</sup>. The books preserve the Avestan classification

of the sun, the moon, and the fixed stars as good celestial bodies, and of the shooting stars as evil bodies<sup>34</sup>. Further, they include in the two opposing fields some entities that are not mentioned in the Avesta: the zodiacal constellations, which they classify as good (insofar as they are formed by stars), and the planetary bodies (which include the then known five planets and the two lunar nodes<sup>35</sup>), which they classify as evil<sup>36</sup> (the starting point for their condemnation being their movement, which is “disorderly,” as it is not constantly forward<sup>37</sup>).

the stars. See also Raffaelli 2009b: 119–21, with some notes on these two lists.

<sup>34</sup> On this Avestan theme, see first and foremost Panaino 1990b and 1995a.

<sup>35</sup> The Pahlavi texts identify the lunar nodes with the head and the tail of a celestial dragon that causes the eclipses, called Gōzihr (the Jawzahr of the Arabic texts, on which see Hartner 1963, with further references). It must be noted that the inclusion of the lunar nodes among the planetary bodies has an Indian origin: see for some more information Pingree 1997: 39–40. Together, the five planets proper and the lunar nodes form the group of the seven planets (Pahl. *abāxtarān*), which group is mentioned in several Pahlavi passages, thus making up the canonical number of planets according to the astrological tradition. In the tradition, though, instead of the lunar nodes, the sun and the moon are considered as planets. Following, in this article, the words “planets” and “planetary” in quotation marks refer to this sevenfold group. When used with no quotation marks, and no further specification, these words, refers to the sevenfold group formed by the two lunar nodes and the five actual planets.

<sup>36</sup> The demonization of the planets in Zoroastrianism likely dates from the Sasanian period, and is in any case certainly much later than their introduction in Iranian astronomy (for further information, see Panaino 1990a, where, on pp. 34–35, with n. 9, he also gives some references to the demonization of the celestial bodies in Manichaeism and Mandaeism; on the non-demonization of the five actual planets in Mazdakism, see the note in Panaino 2015: 255, with references). Note that nowhere in the Pahlavi literature are the sun or the moon defined as *abāxtar(ān)*, as this would be in blatant contradiction with the Zoroastrian view of them as divine, beneficial entities, but the texts include these celestial bodies in the astrological calculations, together with the five actual planets and the lunar nodes. The contrast between the astrological tradition and practice, and religious considerations, appears to have created some confusion about the composition of the group of the seven planets. This is indicated by two *Bundahišn* passages that refer to the leaders of the *abāxtarān* (a word having there the general meaning of “malefic astral bodies” rather than that of “planets”). First and foremost, *Bd.* 27.54 says that the chiefs of the numerous *abāxtarān* are ten, that is, the “seven” (*haftān*), the head and tail of Gōzihr, and Muš parīg (a comet already known from the Avesta; for the passage, see Pakzad 2005: 327 and Anklesaria 1956: 243, under § 52). *Bd.* 5.4, then, mentions the seven commanders of the *abāxtarān*: the five actual planets, Gōzihr, and Muš Parīg.

<sup>37</sup> The relationship between the movement of the actual planets and their demonization has been correctly emphasized by Lincoln in 2009. See also the notes on the etymology of the name *abāxtar* in Panaino 2015: 249. A direct connection between the irregular movement of the planets and their malefic nature is made in *Bd.* 5a.9. Note that, similarly, a reason that, starting from the Avesta, the shooting stars are condemned, is their unpredictable movement.

<sup>30</sup> The larger part (§§ 1–59) of this chapter focuses on astrological matters. Some passages of it have a remarkable similarity to passages of section 5 of the *Bundahišn*. The chapter is edited, commented, and translated in de Menasce 1945: 44–61. It is studied in Raffaelli 2009b, which includes, on pp. 109–21, an edition, translation, and commentary, of most of its astrological portion (§§ 21–59). De Menasce 1945 provides a commented edition and translation of the entire *Škand Gumānīg Wizār*. On this text, see also Cereti (2014), with additional references.

<sup>31</sup> An edition of this book prepared by MacKenzie, and corrected by Jügel, can be found online at <http://titus.uni-frankfurt.de/texte/etcs/iran/miran/mpers/mx/mx.htm>. Its most recently published commented edition and translation is by Chunakova (in 1997: 10–138). Some general notes and references on it are in Tafazzoli 1993 and in Macuch 2009: 168–69.

<sup>32</sup> The *Wizīdagīhā ī Zādspram* are edited, commented, and translated by Gignoux and Tafazzoli in 1993. It must be noted here that in the introduction to the book (pp. 22–23), these two scholars overestimate the significance of astrology in Zādspram’s *Anthologies*, as they recognize an influence of this discipline in the passages of the text where the number of the zodiacal signs, twelve, and that of the planets, seven (on which number see also n. 35), play a role. Given the high relevance of the number twelve, and especially of the number seven, in the Zoroastrian tradition, though, it is far-fetched to recognize an astrological implication in such passages. On the *Wizīdagīhā ī Zādspram*, see also the article by Gignoux (2005), with further references.

<sup>33</sup> Note that in the first chapter of the astrological section of the *Bundahišn* (chapter 5), the celestial bodies are actually included in a long list of good and evil spiritual and material entities that oppose each other (see §§ 4–5). Similarly, the astrological part of chapter 4 of the *Škand Gumānīg Wizār* is concluded (§§ 52–59) by a list of oppositions among material and spiritual entities, which occur below the sphere of

The evil celestial bodies were among the entities that entered the cosmos together with the archdemon Ahriman at the beginning of the phase of mixture. This is the period occupying the second half of the 12 millennia of cosmic history, in which the world currently lives, and which is characterized by a mixture of good and evil<sup>38</sup>. Since right after the attack, evil astral bodies oppose good astral bodies. In particular, the two lunar nodes (the lords of the evil celestial bodies) oppose the sun and the moon (the lords of the good celestial bodies), and the five planets proper oppose five stars: Saturn (Kēwān), their general of the generals (*spahbedān spahbed*), opposes Polaris (Mēx ī mayān ī asmān), the stellar general of the generals (*spahbedān spahbed*). Jupiter (Ohrmazd), Mars (Wahrām), Venus (Anāhīd), and Mercury (Tīr), then, oppose respectively Ursa Major (Haftōring), Vega (Wanand), Fomalhaut (Sawwēs), and Sirius (Tištar)<sup>39</sup>. Each of these four couples of enemy bodies are classified as generals (*spāhbed*), respectively of the North, of the West, of the South, and of the East<sup>40</sup>.

The destructive influence of the planetary bodies is limited not only by the good astral entities, but also by the cords that tie them to the chariot of the sun and the moon, making it impossible for them to move at will<sup>41</sup>.

<sup>38</sup> For some information and further references on Zoroastrian cosmic history and cosmology, see Kreyenbroek 1993, and again Panaino 2015: 238–41. See also the outline of the events of Zoroastrian cosmic history in Boyce 1984: 21. It must be noted that no astrological concept underlies the definition of the duration of the cosmic year as 12,000 years. This is in fact clearly modeled after the calendric scheme of the 12-months year, which was common in Iran well before astrology came to exist (see also the considerations on the Zoroastrian cosmic year in Panaino 1998).

<sup>39</sup> On the astronomical identification of Mēx ī mayān ī asmān, Haftōring, Wanand, and Sawwēs, see the references in Raffaelli 2001: 102, 104–5; on the identification of Tištar, see Panaino 1995a: 1–14.

<sup>40</sup> The participation of the evil celestial bodies in the attack, and their opposition to the good celestial bodies, are dealt with in particular in *Bd.* 5.4, 5a.3, and 5b.12–14. The oppositions among the five planets proper and stars are also listed in *ŠGW* 4.31–36, and that between lunar nodes and luminaries is mentioned in § 46 of the same chapter. The connections of the four planets and stars with the cardinal directions are given in *Bd.* 5a.3–4; those of the stars with the cardinal directions also occur in §§ 5–6 of the astronomical chapter of the *Bundahišn*, chapter 2 (for the edition and translation of which see Pakzad 2005: 37 and Henning 1942: 231). Almost all of the connections between astral bodies and cardinal directions known from the Pahlavi literature have correspondences in the Mesopotamian and Greek astronomical and astrological traditions: see further Panaino 1999c. Moreover, the classification of four planets and stars as generals of the cardinal directions reflects the structure of the late Sasanian army: see Raffaelli 2001: 100–1, n. 28.

<sup>41</sup> On these cords, see *Bd.* 5a.7–8 and *ŠGW* 4.39–45. It is worth mentioning here that in *Bd.* 5a.6, the bond is mentioned that connects the comet Muš parīg to the chariot of the sun (from this bond, it occasionally frees itself, and causes damage; a very similar notion is expressed in *ŠGW* 4.47–48). On the theme of the celestial cords, a theme of Indian background that must have entered Iran in the Sasanian period (and that is also encountered in Manichaen, Mandaean, and

Islamic sources), see Panaino 1996a and 1998, which include editions and translations of relevant texts.

According to the texts, one attribute of the planets that contradicts their negative nature is their luminosity, a highly beneficial quality in Zoroastrian theology, and an outward mark of goodness (as opposed to darkness, an attribute of evil beings). Present in the texts are a comparison of the planets' light to a malefic disguise,<sup>42</sup> and the explanation that light has the beneficial function of limiting their malefic influence<sup>43</sup>.

Consistent with the negative classification of the planetary bodies, more than one passage attributes to them only a negative influence<sup>44</sup> (as opposed to the good celestial bodies, to which the texts attribute only a good influence). Some passages, on the other hand, try to match the view that these celestial entities are intrinsically evil with the view that they can also have a good influence (which derives from the traditional astrological notion that all of the five actual planets can exert a positive influence)<sup>45</sup>. These passages explain this good influence as being the planets' theft of the goodness that comes from the good astral bodies (goodness that they give to worthless persons), or as ultimately deriving from the beneficial enemies of the five planets proper, who defeat the maleficent astral bodies, annulling their evil influence<sup>46</sup>. In one passage,

Islamic sources), see Panaino 1996a and 1998, which include editions and translations of relevant texts.

<sup>42</sup> See *Bd.* 5a.9, and cf. *Dd.* 36.44, which says that Ahriman dressed many *parīgān* with light as a malefic disguise (text and translation of this passage in Jaafari-Dehaghi 1998: 126–27). It must be remembered that Pahl. *parīg* properly means “witch,” and can have the specific meaning of “comet” (as it also does in the name of Muš parīg). It would then be natural to translate *parīgān*, in *Dd.* 36.44, precisely as “comets,” but since the passage attributes the *parīgān* qualities similar to those assigned elsewhere to the planetary bodies (in addition to disguise by light, also evil influence, and theft of goodness: see below, n. 46 for more details), it is more appropriate to interpret this word as meaning in this context “evil astral beings” (note that *AJ* 4.19 mentions seven *parī* [= Pahl. *parīg*], which word is interpreted by Agostini, in 2013: 97, n. 1104, and cf. also p. 121, as denoting the seven evil planets; nevertheless, as correctly indicated by the very translation by Agostini on p. 97, the text actually compares the *parī* to the planets; therefore, *parī* must be translated there as “comets;” for the edition of this passage, see p. 48 of Agostini's book).

<sup>43</sup> See again *Bd.* 5a.9, and see also *ŠGW* 4.21–23, which refers to a goodness coming from the planets' luminosity: this goodness can be interpreted as consisting of limiting the damages of the planets, rather than as consisting of a good influence coming from them, as proposed by the present writer in 2009b: 111–12.

<sup>44</sup> See *MX* 8.20 (edition and translation of the relevant passage in Chunakova 1997: 44 and 91), as well as, once more, *Bd.* 5a.9; cf. also below, n. 46 on *Dd.* 36.44.

<sup>45</sup> Note that chapter 4 of the *Škand Gumānīg Wizār* is meant to answer the introducing objection (§§ 1–6) that whoever created the firmament created good and evil at the same time, since the celestial bodies are the source of both good and evil. This reflects an embarrassment, created by the contrast between astrology and the Zoroastrian view of the astral entities.

<sup>46</sup> Both these explanations are found in *ŠGW* 4.24–38. See also §§ 7–10 of the same chapter, which present the good celestial bodies as givers of good, and the planets and the other evil astral bodies as

*Bd.* 5b.12–13, this type of explanation is provided for the traditional astrological doctrine that assigns, specifically, a generally benign influence to Jupiter and Venus, and a variable influence to Mercury. According to this passage, in the battle that followed the attack of the evil forces on the cosmos, Jupiter and Venus underwent a defeat by their opponents Ursa Major and Fomalhaut. This defeat obliges them to distribute good<sup>47</sup>. Mercury, instead, had in the initial battle the same strength as its astral adversary Sirius, which explains why it can exert both a good and an evil influence. On the other hand, again in *Bd.* 5b.12–13, the generally evil influence attributed in the astrological tradition to Saturn and Mars<sup>48</sup> is explained as being due to the fact that these planets were stronger, in the battle, than their opponents Polaris and Vega<sup>49</sup>. It must be highlighted that the idea of an initial victory of two planets over two stars, in addition to clarifying a traditional attribute of Saturn and Mars, also reflects the strength of the evil forces when they attacked the cosmos, and explains why they exert an evil influence during the whole mixture phase.

thieves, and anti-givers (*ju-baxtāra*, i.e., givers of good to unworthy people). Similarly, in *MX* 12.7–10 is said that the planets steal the good coming from the zodiac and give it to evil people. In 24.7–9 of the same text, then, the planetary bodies are presented as thieves of the goodness destined by the good astral beings to the good persons, which they distribute to evil persons. Cf. paragraphs 4–5 of chapter 38 of, again, the *Dādestān ī Mēnōg ī Xrad*, which present the planets as thieves of the goodness apportioned by Ohrmazd to the good people (for the edition and translation of these three passages see respectively Chumakova 1997: 45, 53, 61, and 92, 99–100, 106–7). For other Pahlavi religious passages presenting the good celestial entities as givers of good, and the evil astral bodies as thieves, see Panaino 2013. Here we should also mention, again, *Dd.* 36.44, where the *parīgān* are said to be thieves of goodness, but only to distribute evil to the creatures. See also de Menasce 1945: 48 and Raffaelli 2009b: 112–13, n. 33 for references to Manichean and Mandaean sources presenting the evil celestial bodies as thieves of good divine dispensation.

<sup>47</sup> Difficult to classify, due to its ambiguity, is the different explanation of the positive influence of Jupiter found in *Zād.* 2.21, according to which this influence is due to the fact that this planet is a bond among the astral bodies (*band ī rōšnān*). See the notes on this explanation by Panaino in 1998: 84–85.

<sup>48</sup> Note that *Bd.* 27.57–58, after mentioning the link that connects the seven planets to hell, focuses on the characteristics of Saturn and Mars (it says they are particularly cold and hot respectively, a characterization that was attributed to them already in Greek astrology: see Bouché-Leclercq 1899: 93–97, 98–99). Clearly, in this passage Saturn and Mars are chosen as the chief representatives of the planets, being considered as the most evil of them (for the passage, see Pakzad 2005: 328 and Anklesaria 1956: 243, under §§ 53–54).

<sup>49</sup> For some further information on the (Mesopotamian and Greek) background of this type of classification of the influence of Jupiter, Venus, Mercury, Saturn, and Mars, see Pingree 1997: 27, and Bouché-Leclercq 1899: 101. Cf. also, *Bd.* 5b.14, which says that Venus and Mercury have a watery and an airy nature respectively (a type of attribution that also occurs in the Greek astrological tradition: see Raffaelli 2009a: 78–79) because this is the nature of their stellar opponents.

Other, more elaborate astrological doctrines found in the Pahlavi religious books are similarly in line with, and contribute to highlight, the view that the planets have an evil influence throughout the duration of the mixture phase.

One such doctrine is that of the horoscope of the world (a doctrine originating from classical astrology<sup>50</sup>), which refers to the astral configuration of the starting moment of the phase of mixture<sup>51</sup>. One passage, *Bd.* 5a.2, provides a complete description of this horoscope<sup>52</sup>. From this, we infer that at the beginning of the mixture phase, the five actual planets and the lunar nodes, as well as the sun and the moon, were in the degree of their exaltation, a position of highest power<sup>53</sup>. Jupiter and Saturn were furthermore in a particularly important position, as they were placed in two of the most important houses of the horoscope, respectively the first<sup>54</sup> and the fourth<sup>55</sup>. Similarly, highly significant was the position of the sun, as it was on the cusp of another especially important house, the tenth<sup>56</sup>. The horoscope also includes Sirius,

<sup>50</sup> The first reference to this doctrine is in a 1<sup>st</sup>-century CE Greek text. On the horoscope of the world in the classical sources, see Raffaelli 2001: 141–46.

<sup>51</sup> On the Zoroastrian horoscope of the world, see Raffaelli 2001, as well as Raffaelli 1999a; 2000; 2011eir.

<sup>52</sup> It should be noted that the description found in *Bd.* 5a.2 is somewhat garbled technically. The passage, in fact, appears to use two different, incompatible systems of subdivision of the houses of the horoscope (the twelve sections that divide a birth chart, starting from the Ascendant, the point where the line of the horizon intersects the ecliptic at the moment of birth). Some elements point to a division of the houses beginning from 19° of each zodiacal sign, whereas others indicate a correspondence between houses and zodiacal signs (see Raffaelli 2001: 84, 85–86, 95). The most obvious explanation for this inconsistency is a technical carelessness by the composer of the passage. Incidentally, from another Pahlavi passage, *Bd.* 6f.5, we infer that the first house of the horoscope starts at 15° Cancer, as it does in the classical horoscope of the world (see Raffaelli 2001: 83, 128).

<sup>53</sup> It should be remembered that the degrees of the exaltation, as established in Greek astrology, are: 19° Aries for the sun, 3° Taurus for the moon, 15° Cancer for Jupiter, 15° Virgo for Mercury, 21° Libra for Saturn, 19° Capricorn for Mars, and 27° Pisces for Venus. The degrees of the exaltation of the ascending and of the descending lunar node, which were invented by Sasanian astrologers, and are known first from Islamic sources, are respectively 3° Gemini and 3° Sagittarius. In the *Bundahišn* horoscope, Mercury is not in its exaltation, but in Pisces, the sign of its dejection (a position of high weakness for the celestial bodies, corresponding to the degree opposite to that of the exaltation). This placement was aimed at saving the astronomical verisimilitude: if Mercury were at 15° Virgo, it would be further from the sun than possible (see for further information Raffaelli 2001: 93–94).

<sup>54</sup> This is the house which starts from the Ascendant.

<sup>55</sup> The cusp of this house, the *Imum Coeli*, is a point where the meridian crosses the ecliptic in the horoscope, and is the lowest below the horizon.

<sup>56</sup> The starting point of this house, the *Medium Coeli*, is the one opposite to the *Imum Coeli*, and therefore is the highest above the horizon. Here should be mentioned some notations found in *Bd.* 5b.17: according to it, Libra became the exaltation of Saturn, and the dejection of the sun, because it was (in the horoscope of the world) in the lowest

the main star-deity in the Zoroastrian pantheon (and, together with the sun and moon, the main Mazdean celestial deity)<sup>57</sup> This star is placed in Cancer, a sign with which it has a strong connection in the Zoroastrian tradition<sup>58</sup>.

Overall, the birth chart of the world reflects well the situation of the heavenly world (and of the cosmos in general), at the beginning of the mixture phase: the number of the evil planetary bodies which were in a position of exceptional power (Saturn, Jupiter, Mars, Venus, and the two lunar nodes) was twice that of the benefic heavenly entities placed in a position of exceptional power (the sun, the moon, and Sirius). This reflects the overwhelming power of the evil forces over the good ones at the moment of the attack. The latter fought and limited the negative effects of the onslaught of their enemies, but were insufficient to annul their damages. It is important to observe that if the Zoroastrian horoscope of the world characterizes the worst moment in history, the horoscope of the world described in the classical sources is meant to portray, on the contrary, an ideal situation for the cosmos. In addition to this difference in perspective, the Zoroastrian and the classical horoscope of the world also present a major difference of a technical nature: in the latter theme, the seven “planets” (i.e., the five actual planets, the sun, and the moon) are not in the degree of their exaltation, but in a sign of their domicile (which is, like the exaltation, a position of exceptional power). The Zoroastrian horoscope of the world was in fact restructured after the model of the Indian birth chart of the exceptional characters (Mahāpuruṣas), where all the seven “planets”

position under the horizon (the 4<sup>th</sup> house). Conversely, Aries became the exaltation of Saturn, and the dejection of the sun, because it was in the highest position over the horizon (the 10<sup>th</sup> house). According to the Zoroastrian view of the structure of the universe, these placements put Aries and Libra respectively close to light and darkness. These two zodiacal signs were therefore fit to contain the position of highest power of the sun, a head of the good, luminous astral bodies, and of Saturn, the chief general of the malefic, dark planets (cf. also *Bd.* 5b.19). It is interesting to observe that *Bd.* 5b.17 bears similarity to a passage of the Θεμέλιος τῆς ἀστρονομικῆς τέχνης κατὰ τοῦ Χαλδαίου δόξα (a Byzantine text with echoes of Sasanian astrology, which was translated from Arabic into Greek perhaps around 1000 CE: on it, see Pingree 2004: 543–45, and see also Raffaelli 2001: 155–56; the text is edited in CCAG 1906: 131–37; an Italian translation of it is in Bezza 1999: 179–84; for the specific passage in question, see CCAG 1906: 134 and Bezza 1999: 180). See furthermore Panaino 1996b: 243–45, with references to Mesopotamian and classical sources defining the opposition between the sun and Saturn in terms of an opposition between light and darkness.

<sup>57</sup> Panaino 1995a provides a detailed analysis of the significance of this star in the Zoroastrian pre-Islamic tradition.

<sup>58</sup> Note that this position of Sirius in the horoscope of the world is furthermore also encountered in the classical tradition. For more information, see Raffaelli 2001: 87–88.

are in their exaltation<sup>59</sup>. The starting point of this restructuring is that, according to Zoroastrian cosmic history, the year 6,000 is the first year of life in the state of mixture both for the world and for Gayōmard, the first man (and first king). Some Pahlavi religious texts mention elements of the birth chart of this individual, showing its general correspondence with that of the world<sup>60</sup>.

In all likelihood, the modification of the structure of the classical horoscope of the world after the model of the Indian horoscope of the Mahāpuruṣas took place during the Sasanian period. We may recognize some theological considerations behind this modification. We begin by observing that the Θεμέλιος τῆς ἀστρονομικῆς τέχνης (the Byzantine text with elements of Sasanian origin quoted in n. 56), first describes two horoscopes of the world with the five actual planets and the luminaries in domicile, which refer to a period of immobility of the zodiacal signs. It then describes a horoscope of the world having the same general structure as the one in *Bd.* 5a.2, and specifies that when the sun, the moon, and the five actual planets reached their exaltation, the dragon who carried six signs of the ecliptic over its back (the Gōzihr of the Pahlavi texts) started to move<sup>61</sup>. This notation brings to mind the association between the “planetary” exaltation and a change of state, an association that we find in Vettius Valens’ Ἀνθολογία<sup>62</sup>. Vettius’ work, a

<sup>59</sup> Note that the positive characterization, reflected in this Indian theme, of the placement of the celestial bodies in their exaltation in the birth chart, can in turn be attributed a classical background: see Raffaelli 2001: 147. See pp. 146–49 of the same work for the two passages (8.3–5 and 9.2) of the first Sanskrit astrological text describing the horoscope of the Mahāpuruṣas, the *Yavanajātaka* (which dates from the 4<sup>th</sup> century CE, but whose original version dates from the 2<sup>nd</sup> century CE), and for some bibliographic references on other Sanskrit works dealing with this birth chart. It is important to remember that the Zoroastrian horoscope of the world became well known in the Islamic context, and was hence transmitted to Byzantine and Latin Medieval astrology: see for more information Raffaelli 2001: 149–62 (with edition, translation, and commentary of relevant texts), and also Raffaelli 2011e. On the documentation of this horoscope in the New Persian *Dar Āfrīnīsh*, see below in the present article.

<sup>60</sup> The *Bundahišn* (6f.3–5) and the *Anthologies* of Zādspram (2.21) make reference to two key elements of the theme of Gayōmard: the placement of Jupiter and Saturn in their exaltation, and in the first and fourth house of the horoscope respectively (text, translation, and commentary of *Bd.* 6f.3–5 in Raffaelli 2001: 78, 80, 125–29; text, translation and commentary of *Zād.* 2.21 on pp. 137–39 of the same study). It is of some interest to add here that the placement of the “beneficial” Jupiter in the first house of the horoscope of the world and of Gayōmard, is an additional element in common between this horoscope and *Yavanajātaka* 9.2, which states that in the theme of the emperor of the three worlds, a benefic planet is in the ascendant.

<sup>61</sup> The portions of this text dealing with the horoscope of the world are edited and translated in CCAG 1906: 131–33 and Bezza 1999: 178–79; Raffaelli 2001: 155–60 also provides an edition and translation, as well as a commentary of them.

<sup>62</sup> See 4.13. For the text of this passage, see Vettius Valens 1986: 172–73.

text known and popular in Sasanian Iran,<sup>63</sup> could have transmitted this notion to Sasanian astrology. This view could have led to the consideration of the Indian horoscope, with the heavenly bodies in their exaltation, as perfectly suitable to characterize the condition of the world at the beginning of the mixture phase. In fact, as the Pahlavi religious texts explain, Ahriman's attack introduced movement and multiplicity of living beings in a cosmos that was previously still, and in which only one representative of each living being existed (one plant, one bovine creature, and Gayōmard). The opposite view, reflected in the Θεμέλιος, that a birth chart with the celestial bodies in domicile characterizes a condition of stability, possibly also has a Sasanian background. Based on this view, the classical horoscope of the world could have been considered as fit to reflect the condition of the world before the mixture phase<sup>64</sup>. If, in Iran, the structure of the theme of the world was indeed modified on the basis of these considerations, most probably this modification was made by Zoroastrian priests, rather than by lay astrologers, who are unlikely to have had the necessary knowledge of Zoroastrian theology.

In addition to the birth chart of Gayōmard, the Pahlavi religious literature also documents an astrological explanation of the doctrine according to which this man lived for 30 years in the phase of mixture<sup>65</sup> (a doctrine which is first known from the Pahlavi religious literature itself<sup>66</sup>).

The texts explain Gayōmard's death at 30 as being due to the positions of Jupiter and Saturn when he was born, and 30 years after that. At Gayōmard's birth, Saturn, a head of the planets, exerted its strong malefic influence because it was placed in its exaltation, and also because it was in the fourth house of the horoscope, which is traditionally connected to death<sup>67</sup>. On the other hand, Jupiter, being also placed in its exaltation, and in the first house of the horoscope, which is traditionally connected to life,<sup>68</sup> could exert its "beneficial" influence, annulling the effects of the influence of Saturn. Furthermore, Jupiter was stronger than Saturn, as it was placed (approximately) 90° before it in the horoscope. This put Jupiter (following a doctrine of Greek origin) in a position of prepollence

(Pahl. *abarwēzih*) over Saturn<sup>69</sup>. After 30 years, on the contrary, Jupiter was in its dejection, whereas Saturn was again in its exaltation, and furthermore in a position of prepollence over Jupiter<sup>70</sup>. Therefore, Saturn was free to produce its devastating effects on Gayōmard's life.

It is interesting to observe here that the doctrine of the death of Gayōmard at 30 is an element of connection between the first man and Zoroaster, of whom he is the ancestor, and with whom he constitutes a cardinal point in the history of humanity. Thirty is in fact a key age also in the legendary life of the prophet. As we first learn from the Pahlavi literature, when he was 30, Zoroaster had his first encounter with Ohrmazd (and therefore experienced a spiritual birth, as opposed to the physical death experienced by Gayōmard)<sup>71</sup>. Furthermore, by setting the death of Gayōmard in the year 30 from the beginning of the first millennium of the mixture phase, this year is characterized by an event opposite in nature from one that takes place in the year 30 before the end of this millennium. According to the chronology of the Zoroastrian cosmic history, in fact, in this year Zoroaster is born. Given these implications of the doctrine that Gayōmard died 30 years after the beginning of the mixture phase, we can hypothesize that the astrological explanation of the first man's death is secondary to this doctrine itself<sup>72</sup>. We can postulate that this explanation was elaborated shortly after the creation of the Zoroastrian horoscope of the world and of the first man, by Zoroastrian priests who wanted to provide support to the view that Gayōmard died in year 30 of the period of mixture. The Pahlavi religious literature, in fact, registers a lack of universal agreement on this view within the Zoroastrian community<sup>73</sup>.

<sup>69</sup> For more details on this doctrine, see Raffaelli 2001: 26.

<sup>70</sup> The reference to the prepollence of Jupiter over Saturn in Gayōmard's horoscope is only found in *Bd.* 6f.5. *Zād.* 2.21–22 simply connects the continuation of Gayōmard's life after Ahriman's attack to the position of Jupiter and Saturn in his birth chart, which made the "vital" and the "deadly" influence of these two planets particularly strong. The prepollence of Saturn over Jupiter when the first man was aged 30, then, is clearly referred to only in *Bd.* 6f.6. In dealing with the death of the first man, *Zādspram* does refer (§ 22) to the *abarwēzih* of Saturn over Jupiter, but it is not certain if this term should be understood in its technical meaning, or rather with its generic meaning of "victory": see Raffaelli 2001: 138–39.

<sup>71</sup> For some further information and references on this feature of the legendary biography of Zoroaster, see Williams 2013.

<sup>72</sup> To be discarded is the view that, on the contrary, this doctrine was elaborated on an astrological basis, as hypothesized by Christensen in 1917–34, 1: 51, and as presented as a certainty by the present writer in 2001: 57.

<sup>73</sup> Chapter 24 of *Dk.* 3 deals with the doubt about whether Gayōmard died right after the attack of Ahriman, or 30 years after that (see its text in *Dēnkart* 1966: 819 [14], ll. 11–19, and its translation in de Menasce 1973: 42). The *Ayādgar ī Jāmāspīg*, in 3.14 mentions the death of the first man, without specifying when this took place. In the previous paragraph, the text had referred to the death of the first animal

<sup>63</sup> See Raffaelli 2001: 31–33 for more information.

<sup>64</sup> See also Bezza 1999: 171–77, which presents references to classical sources other than Vettius' work (as well as to Islamic astrological sources), where domicile and exaltation are associated with stability and mutation.

<sup>65</sup> This explanation is found both in *Bd.* 6f.3–6 and in *Zād.* 2.21–22 (for whose text, translation, and commentary, see Raffaelli 2001, respectively pp. 78, 80, and 125–30, and pp. 137–39).

<sup>66</sup> Note that some Islamic sources also present 30 years as the duration of the life or (much more frequently) as that of the kingdom of Gayōmard. See for some textual references Raffaelli 2001: 121–22.

<sup>67</sup> See Raffaelli 2001: 92 for more information.

<sup>68</sup> See further Raffaelli 2001: 84–85.

The horoscope of Gayōmard is the only birth chart of an individual known from the Pahlavi literature. The astrological explanation of the first man's death provides a message that is paradigmatic for the fate of all humans during the mixture phase: the planets, and more specifically their chief general, Saturn, are ultimately the cause of death, which according to Zoroastrian theology is the worst effect of the onslaught of evil onto the world<sup>74</sup>.

Saturn is also a protagonist of *Bd.* 5b.15–19,<sup>75</sup> a passage dealing with the millenary chronocratoria. This passage expresses the view that each zodiacal constellation rules, in sequence, over one of the millennia of cosmic history<sup>76</sup>. The text focuses in particular on the 7<sup>th</sup> millennium. This is dominated not only by Libra, but also by Saturn.<sup>77</sup> *Bd.* 5b.17 explains that this planet received dominion over this millennium because at the beginning of it, it was placed in Libra, in its exaltation.

The doctrines of the zodiacal millenary chronocratoria and the millenary chronocratoria of the celestial bodies were in all likelihood not introduced in Iran from outside. The notion of a dominion of the beneficial zodiacal constellations over the millennia is likely pre-astrological, and may have been devised in Iran after the introduction of the zodiac there<sup>78</sup>. This doctrine reflects the view that the zodiacal signs oversee and protect the course of

and (in accordance with the Zoroastrian myth), to the fact that it happened at the time of the attack of the evil forces on the cosmos. This portion of the *Ayādgār ī Jāmāspīg* might imply that these two deaths took place at the same time. In this case though, the text would be in contradiction with what it says shortly later (*AĴ* 4.2), that is, that Gayōmard lived 30 years in the state of mixture (for *AĴ* 3.13–14 and 4.2, see Agostini 2013: 45 and 46, and 95 and 96).

<sup>74</sup> Regarding the role of Saturn in Gayōmard's death, it is of some interest to also remember the connection of Saturn with a violent death in classical astrology: see Bouché-Leclercq 1899: 94, with n. 1, and 422–23.

<sup>75</sup> Panaino 1996b, provides an edition and translation of this passage, as well as an in-depth analysis of its themes, highlighting the various elements it has in common with Mesopotamian, Greek, Latin, Indian, and Islamic sources.

<sup>76</sup> Note that the doctrine of the zodiacal millenary chronocratoria is also attested in *Bd.* 36, which outlines the course of the first 10 millennia of history, assigning each of them to the rule of one of the first 10 zodiacal signs (for the passage, see Pakzad 2005: 410–14 and Anklesaria 1956: 305, 307). For the documentation of this doctrine in New Persian Zoroastrian sources, see the final part of this article. On the passage of the Byzantine *Suda* that also documents it (for whose text see *Suda* 1928–38, 4: 609, s.v. Τυρρηνία, and Bidez–Cumont 1938, 1: 235–36), see Panaino 1999a: 137–38.

<sup>77</sup> It is worth noting here that in the doctrine of the chronocratoria, as in those of the horoscope of the world, and of the life and death of Gayōmard, we may recognize echoes of the areas of interest, and of the techniques, of historical astrology. This was a branch of astrology that was invented in Sasanian Iran. It focused on events of collective or political interest, and gave particular importance to the conjunctions of Jupiter and Saturn. For some more notes, and some bibliographic references, see Raffaelli 2001: 28–30, 48, and Panaino 2015: 250–52.

<sup>78</sup> This is also hypothesized by Panaino, first in 1996b: 237, with nn. 24 and 25, and then in 1999a: 136–38.

history, thus helping to preserve the goodness of the universe, the creation of Ohrmazd. The idea of a millenary chronocratoria of the celestial bodies, then, was probably developed in Iran, secondarily to the notion of the zodiacal chronocratoria<sup>79</sup>.

Here, it is important to note that the Byzantine Θεμέλιος describes a system of chronocratoria, where Saturn first, and then the other “planets,” in the order corresponding to their heavenly position established by Hellenistic astronomy (i.e., Jupiter, Mars, the sun, Venus, Mercury, and the moon), rule over one millennium of history each (and over other subdivisions of time)<sup>80</sup>. The duration assigned to world history in this passage probably has a Sasanian background. In fact, Arabic sources mention some Mazdean chronologies, which most likely derive from the Sasanian period, according to which the history of the world, or the key part of it, lasts 7,000 years<sup>81</sup>. A system of “planetary” chronocratoria apparently similar to that of the Θεμέλιος is attributed to a group of Persians by al-Sijzī (c. 945–1020) in the *Muntakhab Kitāb al-Ulūf*<sup>82</sup>. The description of the horoscope of the coronation of Husraw Anūšīrwān (531CE), found in al-Qaṣrānī's *Jāmi' al-Kitāb* (9<sup>th</sup> century) points to the Sasanian origin of this type of millenary chronocratoria. From it, we learn that the coronation of Husraw happened in the millennium (and in the century) of the sun, which may be identified as the fourth millennium, likely in a series of seven millennia, ruled by one “planet” each<sup>83</sup>.

<sup>79</sup> This is also the view held by Panaino: see 1996b: 237, 238, and 246; 1999a: 138–139.

<sup>80</sup> See the passage edited in CCAG 1906: 135–36, and translated in Bezza 1999: 181–83. Note that the view that the “planets” rule in sequence over the millennia might have been inspired by the classical doctrine documented in the *Matheseos Libri* of Firmicus Maternus (4<sup>th</sup> century CE), 3.1.11–14, according to which Saturn, followed by Jupiter, Mars, Venus, and Mercury, rule over the periods of the life of humanity (text and translation of the passage in Firmicus Maternus 1992–97, 2: 18–20).

<sup>81</sup> See: the passage of the *Tathbūt Dalā'il al-Nubuwwa* of 'Abd al-Jabbār (c. 937–1024) edited in 'Abd al-Jabbār 1968, 2: 331, and translated in Shaked 1994b: 74 (for another translation see Mammot 1974: 282–83); the two passages included in Shahrastānī's *Kitāb al-Milal wa-l-Niḥal* (1127–1128), 1.2.1.2.1 (the contents of the second of which are ascribed to al-Jayhānī, 10<sup>th</sup> century), edited in Shahrastānī 1947–55, 1: 573, and 2: 612–16, and translated in Shahrastānī 1993, 1: 636 and 651–53, and Shaked 1994: 55 and 70–72. Further references at p. 55, n. 21 of the latter article. Note that the above-mentioned passages assign the dominion of the world for 7,000 years to Ahirman and to the evil forces. From a Zoroastrian religious point of view, the idea that evil rules in the world could find a strong support in the notion that five evil planets have dominion over five millennia of history.

<sup>82</sup> See Pingree 1968: 64.

<sup>83</sup> We can locate the coronation of Husraw in the 9<sup>th</sup> century of the 4<sup>th</sup> millennium of world history, based on the chronology mentioned in a passage of al-Bīrūnī's (973–after 1050) *Kitāb al-Qānūn al-Mas'ūdi* (see its text in al-Bīrūnī 1954–56, 3: 1473–74, and its translation and analysis by Kennedy and Pingree in al-Hāshimī 1981: 212–13). By

The system according to which each of the “planets,” in their Hellenistic sequence, rules over one of seven millennia, is clearly not, though, the one that underlies the *Bundahišn* passage. The first, obvious reason for this is that the text is based on a scheme of cosmic history of a duration of 12 millennia. This system cannot even be adapted to the scheme of history of 12,000 years, as there are only six millennia between the one ruled by Saturn (the 7<sup>th</sup>) and the last one (the 12<sup>th</sup>). Also, following the criterion exposed in *Bd.* 5b.17, some millennia should be ruled both by a zodiacal sign, and by the celestial body having its exaltation in that sign. Nevertheless, the sequence of “planets” following Saturn in the Hellenistic series does not correspond, even in part, to the sequence of the signs where these celestial bodies have their exaltation<sup>84</sup>.

On another note, the criterion regulating the “planetary” chronocratoria expressed in *Bd.* 5b.17 is not at all compatible with the Zoroastrian view of cosmic history. In fact, following it, Jupiter and Mercury, which have their exaltation in Cancer and Virgo respectively, would be the rulers of the 4<sup>th</sup> and of the 6<sup>th</sup> millennium (and including the lunar nodes among the planetary bodies, the ascending node would be the ruler of the 3<sup>rd</sup> millennium). This goes against the Zoroastrian view that during the six millennia preceding the attack of the demonic forces, the cosmos created by Ohrmazd is exempt from evil<sup>85</sup>.

assigning the rule of the millennia and of the centuries to one of the “planets,” beginning with Saturn, and following their Hellenistic sequence, both the 4<sup>th</sup> millennium and the 39<sup>th</sup> century of history are ruled by the sun. For the relevant passage of al-Qaṣrānī’s work, see the notes, translation, and text, in Pingree–Madelung 1977: 248, 249–50, 266–67. We should add here that if, indeed, the type of chronocratoria according to which the “planets,” in their Hellenistic sequence, rule over 7 historical millennia, has a Sasanian origin, we may assign an Iranian background to two Greek texts found on f. 93<sup>v</sup> of the manuscript Mutinensis 85 (see their text in CCAG 1903: 113–18). It is interesting to observe that in the manuscript, they are followed by two passages, attributed to a Persian author whose name must be read as *Zavartī*, which might indeed have an Iranian origin (see for more information on *Zavartī* and on these two passages Raffaelli 2004: 242–44).

<sup>84</sup> We may remember here the system of “planetary” chronocratoria found in Māshā’ allāh’s *Kitāb fi al-Qirānāt wa al-Adyān wa al-Milāl* (which was written shortly before 813). In this, the Hellenistic sequence of the “planets” is adapted to a 12,000-year scheme, with each “planet,” beginning with Saturn, ruling over one millennium (after the seventh millennium, dominated by the moon, the sequence restarts, the last millennium of history being dominated by Venus): see for this system Kennedy–Pingree 1971: 72–75.

<sup>85</sup> This inconsistency between the system mentioned by the passage and the Zoroastrian view on cosmic history is duly noted by Panaino in 1996b: 237–38. On pp. 241–43 of the same article, though, is included and accepted an interpretation, proposed by Pingree, of three astrological prophecies found in the *Zand ī Wahman Yasn*. These prophecies regard: some social upheaval that will happen under the evil influence of Mercury and Jupiter (6.4); the doubt about whether some future events will happen when the sun is in Cancer or in Pisces (6.10); some other future events that will take place in connection with the

One way to resolve the difficulty in identifying which system of “planetary” chronocratoria underlies *Bd.* 5b.15–19, is to hypothesize that it does not actually imply the attribution of a millennium to each planet, to the sun, and to the moon. Only Saturn rules over one millennium of history, the first of the mixture phase. The attribution of this rule to this planet might indeed have been inspired by the doctrine of the rule of the seven “planets,” beginning with Saturn, over the millennia, as it was likely elaborated by Sasanian astrologers. In this case, the text’s explanation that Saturn ruled over the 7<sup>th</sup> millennium because it was in its exaltation at the moment of Ahriman’s attack, would have been formulated a-posteriori, perhaps by the author of section 5 of the *Bundahišn* himself. What is certain is that assigning the dominion of the first millennium of the mixture phase to the chief general of the planets effectively underlines how this period of history is characterized by the presence of evil. The rule of Libra over the 7<sup>th</sup> millennium of history can also explain the dramatic events that introduce this millennium. Despite being a constellation, and therefore good, Libra is in fact the zodiacal sign where, at the same time, Saturn has its exaltation, and the sun has its dejection<sup>86</sup> (and it must be noted in this respect that § 16 of *Bd.* 5b explicitly connects the fact that Libra contains the dejection of the sun, and the fact that Ahriman’s attack takes place in the millennium ruled by this sign).

One passage of the *Anthologies* of Zādspram, 30.5–12, deals with yet another astrological notion, that of the melothesia of the celestial bodies. This is a development of the doctrine of the “planetary” melothesia, which is first documented in its full form in Greek texts, and which is part of the microcosm and macrocosm theory<sup>87</sup>

movements of Jupiter and Venus (7.8). According to Pingree, these passages can be explained in light of the doctrine of the millenary chronocratoria: the planets and the zodiacal constellations therein mentioned would be the rulers of the millennia of cosmic history; the planets would be the lords, specifically, of the millennia which are dominated by the sign where they have their exaltation. In addition to the difficulties pointed out above, we have to note that, if we follow Pingree’s interpretation, the *Zand ī Wahman Yasn* would make reference to events happening in the 3<sup>rd</sup> or 4<sup>th</sup> millennium (which would be ruled by Mercury and Jupiter), and this goes against the Zoroastrian idea that human history proper starts in the 7<sup>th</sup> millennium. Panaino ingeniously attempts to explain the contradictions between the exegesis of Pingree and the structure of Zoroastrian cosmic history, but his attempts are not convincing. The astrological forecasts of the *Zand ī Wahman Yasn* are more simply explained as general prophecies about future events, without a specific, deeper significance (note that Pingree and Panaino’s interpretation is erroneously presented as possible in Raffaelli 2001: 44, and as a certainty in Raffaelli 2009a: 79–80, with n. 69).

<sup>86</sup> This characterization of the zodiacal and planetary rule over the 7<sup>th</sup> millennium is noticed also by Panaino in 2015: 240; cf. also the observations, again by Panaino, in 1996b: 246–47.

<sup>87</sup> See Gignoux 2001b: 54–63 and 2004 on this theory, with a specific focus on its development in pre-Islamic Iran, and with other references.

According to this doctrine, the sun, the moon and the five actual planets influence, and have dominion over, a specific part of the human body<sup>88</sup>.

According to *Zād.* 30.5–12, each of seven layers of the human body, from the innermost to the outermost, is governed by one or two astral bodies: the marrow by the descending lunar node and the moon, the bones by Mercury, the flesh by Venus, the nerves by the sun, the veins by Mars, the skin by Jupiter, and the hair by Saturn<sup>89</sup>. As is evident, the text mentions the luminaries and the five planets proper in an order corresponding to their increasing heavenly position according to Hellenistic astronomy<sup>90</sup>. The descending lunar node, then, according to the Zoroastrian sources, is placed below the level of the moon<sup>91</sup>.

It is interesting to observe first of all that some of the connections between celestial entities and parts of the body mentioned by Zādspram occur also in Greek astrological melothesiae. To begin with, the moon is attributed the rule over the marrow in more than one text, one being the above-mentioned Ἀνθολογίαι by Vettius, 1.1.5.<sup>92</sup> Similar to what we find in the *Wizīdagīhā*, then, we encounter the link of Mars with blood in several works,<sup>93</sup> starting from what is possibly the first Greek “planetary” melothesia, which is included in the Hermetic Ἱατρομαθηματικά<sup>94</sup>. This connection is also

encountered, once more, in the text of Vettius, 1.1.24.<sup>95</sup> Furthermore Ptolemy, in his Τετραβιβλος (a work of which a Pahlavi translation might have existed<sup>96</sup>), assigns the rule of the veins to Mars, that of the nerves to the sun, and that of the flesh to Venus<sup>97</sup>.

It must then be noted that lists of seven parts of the human body, partially corresponding to the list of Zādspram, are also documented elsewhere in the Pahlavi literature,<sup>98</sup> as well as in documents coming from other cultural and religious contexts (these divisions ultimately originate from the Platonic *Timaeus*<sup>99</sup>).

Among these, particularly interesting for the comparison with the melothesia of the *Anthologies* is, first of all, a passage of the above-quoted *Yavanajātaka* (1.123–36), where the sun, the moon, and the five planets proper, are said to have the essence, or the nature, of seven parts of the body (including the bones, the blood, the skin, the marrow, and the sinews)<sup>100</sup>. Furthermore, a passage of the Syriac *Book of Medicines* (a composite text of uncertain chronology, but at least some parts of which are clearly connected to the pre-Islamic Iranian tradition<sup>101</sup>) places in relationship eight parts of the body (including skin, blood, sinews, veins, bones, flesh, and hair) with the luminaries and the planets proper. Among these, it connects the flesh with Venus and the hair with Saturn (and the blood with Mars)<sup>102</sup>. Finally, according to the *Kitāb al-‘Unwān* of Agapius of Hierapolis (9<sup>th</sup>–10<sup>th</sup> century) and to the *Chronicle* of Michael the Syrian (1126–1199), 6.6, Bardesanes considered seven

<sup>88</sup> See Bouché-Leclercq 1899: 320–26, Olivieri 1936, and Pingree 1978, 2: 251–52 on the astrological “planetary” melothesia in Greek texts, and see also the general historical notes on the astrological zodiacal melothesia (the doctrine connecting the zodiacal signs to parts of the body) in Pingree 1978, 2: 199–200. Geller 2014 deals with the melothesia in Mesopotamia: in particular, pp. 77–89 (with further references) focus on Late Babylonian texts where one can recognize traces of this doctrine. See also below in the present article on the link between the sun and moon and the eyes in different cultural contexts.

<sup>89</sup> For the edition and translation of this passage, see Gignoux–Tafazzoli 1993: 98–99. Note that it is included in a section of the *Wizīdagīhā* dealing with the composition of humans, which is formed by chapters 29 and 30. The heading of this section presents it as authored by Zādspram himself (*Gōwīšn ī Zādspram ī Gušn-ĵamān* “Words of Zādspram son of Gušn-ĵam”). On these two chapters, see also Sohn 1996.

<sup>90</sup> Note that the order of the celestial bodies in this passage disagrees with the standard order of the levels of heaven in the Pahlavi texts, according to which the moon and the sun are placed above the stars and the planets (the order stars–moon–sun is encountered even in the *Wizīdagīhā*, in 3.31 and 35.43: see Gignoux–Tafazzoli 1993: 46–47 and 136–37; for more information, see Panaino 1995b; only in the later *‘Ulamā* and *Dar Āfrīnīsh-i Jahān*, the sun, the moon, and the five actual planets are mentioned in the same order as in *Zād.* 30: see Colapaoli 2005: 83, 92; Spiegel 1856–60, 2: 163 and Dhabhar 1932: 429).

<sup>91</sup> See the references in Raffaelli 2001: 109.

<sup>92</sup> The text of the relevant passage is found in Vettius Valens 1986: 1; Vettius Valens 1989: 26–27 contains its text and translation. For further information on this rule see Olivieri 1936: 46.

<sup>93</sup> See Olivieri 1936: 32–33.

<sup>94</sup> This text possibly originates from Hellenistic Egypt. It exists in two versions. The (almost identical) relevant passage in them is pub-

lished in Ideler 1841–42, 1: 387 and 430; an Italian translation of it is in Bezza 1995, 2: 695.

<sup>95</sup> See Vettius Valens 1986: 3; 1989: 30–31.

<sup>96</sup> See Panaino 1996b: 243–44, with n. 42.

<sup>97</sup> These ascriptions are found in the passage of the Τετραβιβλος numbered as 3.12 in the edition and translation Ptolemy 1940: 318–21, and as 3.13.5 in the edition and translation Ptolemy 1985: 248–251.

<sup>98</sup> See most importantly *Bd.* 28.22, which is discussed further in this article. Furthermore, *Dk.* 3.263 lists seven parts of the human body, including marrow, veins, flesh, bones, hair (for the relevant passage and its translation, see *Dēnkart* 1966: 621 [211], l. 11 and de Menasce 1973: 263). We recognize a sevenfold list of parts of the body also at the beginning of *Bd.* 28.4, which includes skin, flesh, bones, veins, and hair (and note that interestingly, the first twelve parts listed in this paragraph are likened to the seven basic creations of the world according to Zoroastrian cosmology, or to different manifestations of them; for the text and translation of the relevant part of *Bd.* 28.4, see Pakzad 2005: 329–30 and Anklesaria 1956: 245). Paragraph 18 of *Bd.* 28 may also be mentioned, which includes an enumeration of the seven parts of the head, and a list of the internal organs of the body (for this passage, see Pakzad 2005: 335–36 and Anklesaria 1956: 251; its text, translation, and some notes on it, can also be found in Gignoux 2001b: 55–56).

<sup>99</sup> See Tardieu 1984: 300–8, with more information.

<sup>100</sup> For the text, translation, and commentary of this passage, see Pingree 1978, 1: 69–72; 2: 10–11, 251–52.

<sup>101</sup> See the notations and references on this work in Gignoux 1998b.

<sup>102</sup> See the text and translation of the relevant passage in Budge 1913, 1: 17, and 2: 619.

parts of the body to originate from the sun, the moon, and the five actual planets. According to Agapius, the parts of the body mentioned by Bardesanes included bones, veins, blood, flesh, head hair, and skin, but the celestial origins he assigned them did not coincide with the connections found in the *Wizīdagīhā* (but note that he considered blood to derive from Mars)<sup>103</sup>. On the other hand, according to Michael the Syrian, Bardesanes' list included bones, nerves, blood, flesh, and head hair, and he thought that flesh originated from Venus (and blood from Mars)<sup>104</sup>.

We can hypothesize that the type of connection between the seven parts of the body and the seven heavenly entities documented in these texts was elaborated somewhere in the Greek-speaking milieu (in the late Hellenistic period, or shortly after that). From there, it was directly or indirectly transmitted to other cultural contexts. Through which sources precisely it was transmitted to Zoroastrianism, it is impossible to establish. Most likely, this happened in the Sasanian period, as it is to this period that we can most soundly attribute the inclusion of the microcosm and macrocosm theory in the Zoroastrian doctrinal corpus.

We can then judge the melothesia documented in the *Wizīdagīhā ī Zādspram* as synthesizing, with some originality, themes of different origin, that its author inherited from the Sasanian culture<sup>105</sup>.

On another note, in *Zādspram*'s book, the passage on the melothesia is preceded (§ 1), by a comparison between a heavenly entity, i.e., the celestial sphere, and the human body<sup>106</sup>. Precisely this comparative style enlivens *Bundahišn* 28 (a chapter focused on the theory of the microcosm and macrocosm),<sup>107</sup> which also includes, among others, some comparisons between parts of the human body and astral entities. In § 4, the hands and the feet are likened to the planets and the zodiacal constellations (*haftān ud dwāzdahān*, lit. "the seven and the twelve"<sup>108</sup>), the two

eyes to the moon and the sun (a comparison which is then also implied in § 7<sup>109</sup>), and the teeth to the stars.

This comparative style is common to chapter 6 of the pseudo-Hippocratic *Περὶ ἔβδομάδων* (1<sup>st</sup> century BCE). In this portion of text, parts of the human body, listed in a partially concentric order, are likened to parts of the cosmos, located concentrically, including some astral entities. Aside from a general similarity in style though, the elements in common between this chapter of the *Περὶ ἔβδομάδων* and the Pahlavi texts here discussed are not particularly significant<sup>110</sup>.

More pertinent is to note that the comparison made in *Bd.* 28 of the limbs with the zodiac and the planets, brings to mind the reference to the seven planets and the twelve zodiacal constellations as being the source (apparently by means of a bond) of the movements of humans, a reference found in § 30 of the Pahlavi secular text *Wizārišn ī Čatrang*<sup>111</sup>. The comparison of the two luminaries to the eyes, then, also occurs in the treatise on the composition of man by Ahūhēdemmeḥ, a Syriac text which was produced in the 6<sup>th</sup> century in Sasanian territory<sup>112</sup>. In

<sup>109</sup> Note also that the right eye of the sacrificial animal is said to belong to the moon in chapter 11 of the Pahlavi religious book *Šāyast nē Šāyast*, § 4 (a paragraph assigning different parts of the sacrificial animal to different entities: see its text and translation in Kotwal 1969: 23–24; some useful observations this passage can be found in Lincoln 1986: 56, with the n. 50 on p. 192).

<sup>110</sup> We should remember in this context the hypothesis formulated by Götze in 1923 that the pseudo-Hippocratic treatise was influenced by the lost Avestan original of *Bd.* 28. This hypothesis has since been discarded: see the references to the scholarly debate on the relationship between the two texts in Lincoln 1986: 179, n. 39. For *Περὶ ἔβδομάδων* 6 (a part of the text which is only preserved in Latin and in Arabic), see Hippocrates 1913: 10–12; an English translation of most of it is provided by Lincoln in 1986: 27 and 180, n. 44. On pp. 27–30, and in the notes on pp. 179–80 of the latter book, is found some further information on this portion of text. Note that in *Περὶ ἔβδομάδων* 6.2, it is uncertain if the heat around the flesh, which is compared to Jupiter, is to be identified with the skin, as proposed by Lincoln in 1986: 28–30. This comparison would be of great interest, as *Zādspram* assigns the skin to Jupiter. The layer the passage refers to, though, must more probably be identified with one that is right under the skin (the skin itself is, rather, compared in the two Latin manuscripts of the *Περὶ ἔβδομάδων* to the solidity, and in the Arabic to the void, that encloses the world).

<sup>111</sup> This work is based on a text from the late Sasanian times. For the edition and translation of the paragraph see Panaino 1999b: 75–76.

<sup>112</sup> On this text, see Gignoux 1998a, which also includes some information on Ahūhēdemmeḥ. Note that the passage where this comparison is found also shares with *Bd.* 28.4 other comparisons between microcosm and macrocosm: see the list in Gignoux 2001a: 222–23; for the text and translation of the passage, see Chabot 1965: 60 and 70. It appears impossible to establish whether the similarities between the two texts can be attributed to an influence of this Syriac source on *Bundahišn* 28 (as proposed by Gignoux in 2001a: 223 and in 2004), or if it should be attributed, on the contrary, to an Iranian influence on Ahūhēdemmeḥ. It is even possible that these similarities are due to a familiarity, by the authors of these two sources, with the same set of associations between microcosm and macrocosm, to which they gave similar textual expression. We may also mention here the presence of

<sup>103</sup> For the relevant passage of the *Kitāb al-'Unwān*, see Agapius of Hierapolis 1911: 520.

<sup>104</sup> Note that Michael's text is partially corrupt in the manuscript (I thank prof. Amir Harrak for his help in reading the passage). For the text of the relevant passage of the *Chronicle*, see Michael I 2009: 114a, ll. 1–5; a translation of it can be found in Michael I 1899–1924, 1: 184.

<sup>105</sup> The "planetary" melothesia documented in the *Anthologies* might have had a diffusion also outside of the Zoroastrian context. An indication in this sense possibly comes from a Byzantine text (which could be later than the 10<sup>th</sup> century), which contains some elements of probable Iranian origin (see Boll in CCAG 1908: 95–96). This text assigns the lordship over the hair to Saturn (for the text of the relevant passage see CCAG 1908: 96).

<sup>106</sup> For the passage, see Gignoux–Tafazzoli 1993: 96–97.

<sup>107</sup> In Lincoln 1986: 26–27 are found some notes on this chapter.

<sup>108</sup> On this same type of definition of "planets" and zodiacal signs in Mandaean texts, see the references in Raffaelli 2001: 43, n. 35.

addition, this comparison is strongly reminiscent of the melothesias in Greek, according to which either eye is ruled by either luminary. This connection is found first of all in the above-quoted melothesia of the Ἰατρομαθηματικά, and also occurs in Vettius Valens' *Anthologies*, 1.1.2 and 1.1.5, among other texts<sup>113</sup>. Interesting for the contextualization of the occurrence of the comparison of the eyes with the luminaries in *Bd.* 28.4 is also the presence of the connection of the sun with the eyes in classical texts,<sup>114</sup> and in the Indo-European context in general<sup>115</sup>. We should furthermore mention *Mahābhārata* 3.187.7a, where Viṣṇu calls the sun and the moon his eyes. Finally, of some interest are two Chinese works, the *Shuyi Ji* and the *Xiaodao Lun* (both dating from the 6<sup>th</sup> century), which respectively refer to the transformation into the luminaries of the eyes of the giant Pangu, and of the divinised Laozi<sup>116</sup>. As far as the homology between stars and teeth is concerned, possibly it was suggested by the physical characteristics of the teeth (insofar as these are shining and numerous).

We may add to the review of the connections between the body and heavenly entities in the Pahlavi texts, the legend of the birth of seven (or eight) metals from Gayōmard's body (a legend first known from the Pahlavi literature), which possibly implies the astrological tradition which placed the sun, moon, and the five planets proper in relationship with one metal each<sup>117</sup>.

Regarding the relationships between the human body and celestial entities encountered in the Pahlavi religious literature, it must be remembered that Zoroastrianism does not have a negative view of the body. Nor does it classify negatively the specific parts of the body that the

texts assign to the control of, or liken to, the planets. In *Bd.* 28.22, seven bodily parts, which with the exception of the blood (replacing the skin) are the same as those encountered in *Zād.* 30, are said to belong to six of the Amahraspands, the chief group of Zoroastrian divine entities<sup>118</sup>. Zādspram himself, furthermore, as we have seen above, assigns the marrow to both the descending lunar node and to the moon. One might think therefore that the texts reflect a non-demonization of the planets<sup>119</sup>. Nevertheless, it is hard to believe that we could encounter such a blasphemous notion in the Zoroastrian religious literature.

For a correct interpretation of the data, we should remember first of all that according to the Zoroastrian worldview, the human body is constantly exposed to pollution, as humans live in a polluted cosmos. Furthermore, the body itself can be a source of impurity, as all its discharges are a cause of pollution<sup>120</sup>. These views are reflected in chapter 28 of the *Bundahišn* itself, as in several points of it, functions and dysfunctions of the body are likened to good and evil elements or actions that take place on the macrocosmic level. In §§ 4 and 10 of the same chapter, in addition, one part of the body, the anus, is compared to the worst part of the cosmos, hell.

Overall, therefore, in the correlations made in the texts between the human body and planets, we must recognize, rather than a positive consideration of these celestial bodies, the view that humans reflect, on the microcosmic level, the pollution that afflicts the universe during the phase of mixture, marring the perfection that is intrinsic in it, since it is a creation of Ohrmazd<sup>121</sup>.

the statement that the luminaries are the eyes of the world in § 19 of the *Legend of Mar Qardagh*, an early 7<sup>th</sup> century Syriac work (see the text of the passage in Bedjan 1890–97, 2: 454, and its translation in Walker 2006: 30).

<sup>113</sup> See Vettius Valens 1986: 1; 1989: 26–27. For other references and information, see Bouché-Lerclercq 1899: 322, and Olivieri 1936: 38–39. It is possible, considering the strong component of Egyptian background in the Greek astrological melothesias, that the link of the luminaries with the eyes therein found derives from the ancient Egyptian tradition, where the sun and moon were thought of as the eyes of the supreme cosmic deity (a number of relevant references are provided in Darnell 1997: 35–36, nn. 1–4; to these must be added at least Krauss 2008).

<sup>114</sup> See the observations in, again, Olivieri 1936: 38–39.

<sup>115</sup> See Lincoln 1986: 17–18, with notes on pp. 178–79.

<sup>116</sup> See the translation and the notes on these passages in Kaltenmark 1991: 1009, and Gignoux in 1994: 51. We must note here that the link expressed in *Bd.* 28.4 may have had some legacy: the two luminaries are said to be masters of the two eyes in chapter 10 of book 1 of the text in Greek attributed to Ἀχμάτης ὁ Πέρσης (Aḥmad al-Fārisī), a work containing elements of possible Iranian pre-Islamic origin (see Raffaelli 2004: 240–42; on the chapter in question in particular, see p. 240, and see also Weinstock in CCAG 1940: 169; for the text of the relevant passage, see CCAG 1940: 169–70).

<sup>117</sup> One of the passages documenting this legend is a paragraph of *Bundahišn* 6f, § 8. For further information, see Raffaelli 2001: 131–32.

<sup>118</sup> See the text and translation of *Bd.* 28.22 in Pakzad 2005: 346–47 and Anklesaria 1956: 257, 259. Observe also that in *Bd.* 28.4, five of the parts of the body that Zādspram relates to the planets are likened to beneficial creations: the skin to the sky, the flesh to the earth, the bones to the mountains, the veins to the rivers (and the blood to sea water), as well as the hair to the plants. Also worthy of mention is that *Zād.* 34.7 says that the earth watches over the flesh, and the nerves of humans, and that the plants preserve the hair of humans, and also, that water preserves blood (in anticipation of the final resurrection of the bodies). According to the following two paragraphs of the text, at the end of time, in order to re-form the bodies, Ohrmazd will request flesh, bones, and nerves from the earth (and according to §§ 10–12, he will request blood from the river Arang, and the head hair from the plants; for this part of Zādspram's book, see Gignoux–Tafazzoli 1993: 116–17). Similarly, according to *Bd.* 34.5 and *Pahl. Riv. Dd.* 48.55, in order to re-form the bodies, at the end of history the supreme god will request the bones from the spirit of the earth (or from the earth), and the hair from the plants (as well as blood from the water; for these two passages see respectively: Pakzad 2005: 377–78 and Anklesaria 1956: 285; Williams 1990, 1: 180–81 and 2: 83).

<sup>119</sup> This is indeed the view of the passages of *Zād.* 30 and *Bd.* 28 of Zaehner (1955: 162), who is followed by Panaino (first in 1990a: 35).

<sup>120</sup> For more notes and references on this aspect, see Choksy 1989: 78–103.

<sup>121</sup> Cf. this view with the one underlying the zodiacal melothesias documented in two passages of chapter 70 of the Manichaean *Kephalaia*

Similar to this latter view, in two Pahlavi passages we may identify the idea that humans reflect the present, mixed state of existence through their link to the celestial world. One passage that possibly contains this notion is the above-mentioned *Wizārišn ī Čatrang* 30<sup>122</sup>. The other passage is *Bd.* 5b.18, where we can recognize a reference to the yoke that connected both Libra and Saturn to humans during the 7<sup>th</sup> millennium of history<sup>123</sup>.

The presence of good and evil, on a larger scale, on the earth, is then reflected in the images, documented in some Pahlavi religious books, of bonds that connect good or evil astral bodies to parts of the earth<sup>124</sup>.

#### NON-CANONICAL ASTROLOGICAL DOCTRINES

From the overview presented above, it is evident that the Pahlavi religious literature includes astrological notions that are consistent with, and provide support to, some of the theological tenets of Zoroastrianism, within the context of the central notion of a conflict between good and evil.

On the other hand, unsurprisingly, there is no trace in the texts of the astrological doctrines circulating in Sasanian Iran which could not be matched with their view of the heavenly world<sup>125</sup>.

Despite the silence of the Pahlavi works on these doctrines, we recognize in one passage, *ŠGW* 4.28–38, a polemical attitude towards the opinion of the (lay) astrologers (*star-aṅgāra*) that the five *aβāxtar(a)* (= Pahl. *abāxtar[ān]*, i.e., the five actual planets) can actually have a positive influence, an opinion that does not correspond to

(174.II.–13 and 174.I.–175.I., which are translated in Gardner 1995: 183–84, and are edited, translated, and commented, in Demaria 1998: 40–43, 64–66): see the notes by Panaino in 1997: 574–78.

<sup>122</sup> See also the observations on this passage in Panaino 1998: 85–86.

<sup>123</sup> The text adds that due to this yoke, humans were taller and bigger in that millennium: see the notes on this curious statement in Panaino 1996b: 245–46.

<sup>124</sup> See Panaino 1998: 71, 75–76, 79–81. Remember also the mention of the bond of the planets to hell (which according to Zoroastrian cosmography is located under the earth) in *Bd.* 27.57–58 (see n. 48). Cf. furthermore the astrological doctrine of the chorography, which is referred to in *ŠGW* 4.48. According to this doctrine, each zodiacal sign has influence over a specific region of the earth (see Raffaelli 2009b: 118–19 for references on this doctrine, and on post-Sasanian non-Iranian sources of possible Pahlavi origin, where it is documented, one of which passages is the Θεμέλιος).

<sup>125</sup> We know from Arabic and Latin medieval sources deriving from Pahlavi texts (which are in turn translations from the Greek), of the existence in Sasanian Iran of the notions that some stars exert a malefic influence, or have some qualities specific to one or two of the actual planets (see Panaino 1993 and Bezza 1995, 1: 421–31 for more references on these sources and on these doctrines, as well as on classical astrological texts where these are encountered). These concepts are in blatant contrast with the positive classification of the stars, and their hostility toward the planets, in the Pahlavi religious works. See below in the present article, with n. 121 on the presence in the *Dar Āfrīnīsh-i Jahān* of the idea that some stars are Ahrimanic.

the religious consideration of these celestial bodies<sup>126</sup>. We should add that we may also identify in the texts some traces of the view that the astrological doctrines that are included in the religious corpus are better than those that are not. The statement of *Bd.* 5b.22 quoted above highlights how the astrological notions that are part of the Zoroastrian sacred corpus are more detailed (probably meaning richer in contents, and with a deeper significance) than those that are excluded from it. A perspective similar to the one expressed in this latter passage might furthermore also be recognized in an episode of the legendary biography of Zoroaster known from *Dk.* 5.2.9 and 7.4.73. According to these two passages, on one occasion the prophet defeated in debate the other sages of the world, among whom were 12 astrologers named after the zodiacal constellations. The message of this episode is, most likely, that the divinely inspired knowledge of the prophet is superior to the knowledge of the astrologers<sup>127</sup>.

#### EPILOGUE

Some of the astrological doctrines in the Pahlavi religious literature that have been analyzed above continued to be part of the Zoroastrian doctrinal corpus after the 10<sup>th</sup> century. Most interestingly, the New Persian '*Ulamā-yi Islām* and the *Dar Āfrīnīsh-i Jahān* mention the zodiacal dominion over the millennia,<sup>128</sup> and the latter text also describes the horoscope of the world<sup>129</sup>.

<sup>126</sup> Cf. the more neutral explanations of the influence attributed by the astrologers (*axtar-āmārān*) to the five planets proper in *Bd.* 5b.12–13.

<sup>127</sup> For the two *Dēnkard* passages relating this episode, see respectively Amouzgar–Tafazzoli 2000: 28–29, and Molé 1967: 56–57. Further on them in Panaino 2007, where, though, the episode is interpreted as aimed at underlining the prophet's deep knowledge of astral doctrines. What goes against this interpretation is the fact that the *Dēnkard* passages do not speak of Zoroaster winning in a debate about astrology (see also the observation by Rose in 2000: 27). We may also mention here § 24 of the *Šahrestānīhā ī Ērānšahr* (a Pahlavi secular geographical work, whose redaction that we have received dates from the early Islamic period), where is said that the decrees of the planets and the zodiac were revealed through sorcery by Bābēl, the founder of Babylon (for the edition and translation of this passage, see MacKenzie 1964: 524, n. 65, and Daryae 2002: 14, 18). One might interpret this passage as expressing a demonization of astrology, but it is unlikely that we could find such a negative view of this discipline in a Pahlavi text (even of a secular type): the passage should rather be interpreted as meaning that Bābēl divulged the astrological knowledge illegitimately.

<sup>128</sup> For the passage of the '*Ulamā-yi Islām* dealing with this doctrine, see Colapaoli 2005: 81, 89; parallel to it is a passage of the *Dar Āfrīnīsh-i Jahān*, for which see the edition in Spiegel 1856–60, 2: 162 and the translation in Dhabhar 1932: 428. The latter work also mentions this notion right before describing the horoscope of the world: see the edition in Spiegel 1856–60, 2: 163, and the translation in Dhabhar 1932: 429–30, Zaehner 1955: 417, and Raffaelli 2001: 140.

<sup>129</sup> See Spiegel 1856–60, 2: 163 and Raffaelli 2001: 140 (and see also the commentary on p. 141 of the latter book; note that the translations found in Dhabhar 1932: 430 and in Zaehner 1955: 417 are not reliable).

On the other hand, in Zoroastrian texts dating from after the early Islamic times, we do not encounter the same polar division of the heavenly bodies as in the Pahlavi religious literature. In particular, the *Dar Āfrīnīsh* states that there are Ohrmazdian and Ahrimanian stars<sup>130</sup>. Also, an incantation (*nērang*) written in Pāzand (and as such dating from well after the Sasanian era) contains an invocation for health and fortune by the power of the stars and of the planets (*pa zōr axtarān u aβāxtarā*)<sup>131</sup>.

Also not in agreement with the Pahlavi works is the explanation of the luminosity of the evil celestial bodies, and of their possible positive influence, given again by the *‘Ulamā* and by the *Dar Āfrīnīsh*. The first of these two texts says that after the attack on the cosmos, the seven evil planets were bound by the good spiritual beings to the vault of the sky, and that Ohrmazd surrounded them with light and gave them divine names, replacing the demonic names they had previously (thus actually de-demonizing them)<sup>132</sup>. The *Dar Āfrīnīsh*, in turn, while presenting Saturn, Mars, and Mercury as demons, excludes Jupiter and Venus (planets of good influence) from the rank of the bad entities. It also explains that Mercury cannot exert an evil influence as it is inclined to do. This is due to its being a prisoner in the hands of the sun,<sup>133</sup> from which it is never separated, and to its placement in the second heaven, which is located between the heavens occupied by the good Venus and the moon. Due to this characteristic, and to the fact that the influence of Mercury can be either good or evil according to which planets it is associated with,<sup>134</sup> Mercury is defined as mixed (*mumtazij*)<sup>135</sup>.

<sup>130</sup> This statement may be connected to the astrological doctrine, known in Sasanian Iran, that some stars have a malefic influence. For the passage, see the text in Unvala 1922, 2: 66, l.9, and the translation in Dhabhar 1932: 431.

<sup>131</sup> Further information on this incantation can be found in Panaino 2004c: 196–97, 199–201, 207–10; its text and translation are on pp. 200–1 of the article.

<sup>132</sup> See Colapaoli 2005: 82–83 and 92 for the edition and translation of the relevant passage. In Panaino 1990a: 40–42 are found some useful observations on it.

<sup>133</sup> Note that this image clearly derives from that of the cords tying the planetary bodies, present in the Pahlavi literature.

<sup>134</sup> Interestingly, the explanation provided by the text for this quality of Mercury (*čū bā sa’d buvad nīkī kunad va chūn bā naḥs uftad badī kunad* “when it is with an auspicious [planet] it can only do good, and it does harm when it is with an inauspicious [planet]”) closely parallels that which is found in *Bd.* 5b.12 (*ēd rāy axtar-āmārān gōwēnd kū Tīr abāg kirbakkarān kirbakkar ud abāg bazakkarān bazakkar* “for this reason astrologers say that Mercury is benefic [when associated] with the benefic [planets], and malefic [when associated] with the malefic [planets]”). The *Bundahišn* is indeed mentioned at the end of the *Dar Āfrīnīsh* (see Unvala 1922, 2: 66, l. 8 and Dhabhar 1932: 431), but as the source of a statement on the influence of the celestial bodies that is not actually present in this Pahlavi text (see also Raffaelli 2001: 140).

<sup>135</sup> See the text of the passage of the *Dar Āfrīnīsh* here discussed in Spiegel 1856–60, 2: 162–63, and its translation in Dhabhar 1932: 429, and Zaehner 1955: 417.

The most likely reason for the explanations found in the *‘Ulamā* and in the *Dar Āfrīnīsh-i Jahān* of the qualities of the planets that contradict their evil nature, is that when these texts were composed, the exegeses found in the Pahlavi works were no longer considered convincing. We can then find in these two texts an indication that even after the early Islamic times, the Zoroastrian tradition continued to be characterized by the same intellectual creativity that had previously allowed it to include and adapt to its theological corpus notions and doctrines of multifarious type and origin.

#### ABBREVIATIONS

<i>AĴ</i>	= <i>Ayādgār ī Ĵāmaspīg</i>
<i>Bd.</i>	= <i>Bundahišn</i>
<i>Dd.</i>	= <i>Dādestān ī Dēnīg</i>
<i>Dk.</i>	= <i>Dēnkard</i>
<i>MX</i>	= <i>Dādestān ī Mēnōg ī Xrad</i>
<i>Pahl. Ny.</i>	= <i>Pahlavi Niyāyišn</i>
<i>Pahl. Riv. Dd.</i>	= <i>Pahlavi Rivāyat</i> Accompanying the <i>Dādestān ī dēnīg</i>
<i>Pahl. S.</i>	= <i>Pahlavi Sīh Rōzag</i>
<i>ŠGW</i>	= <i>Škand Gumānīg Wizār</i>
<i>Zād.</i>	= <i>Wizādagihā ī Zādspram</i>

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