Pietro d’Abano, Translator of Abraham Ibn Ezra’s Astrological Writings*

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From the Middle Ages until the present, the development of astrology among the Jews has been associated with the name of Abraham Ibn Ezra (ca. 1089-ca. 1161). He created the first comprehensive set of Hebrew astrological textbooks that addressed the main systems of Arabic astrology and provided Hebrew readers with access to the subject. Some of his works became known to Christian scholars during his years in the Latin West and shortly after his death. However, Ibn Ezra’s astrological writings remained outside the mainstream of Latin astrological literature until the last decades of the thirteenth century. Then an Ibn Ezra renaissance took place in the Latin West, thanks to a number of almost simultaneous translation projects. The most extensive and ambitious of all the translation projects was carried out by Pietro d’Abano (ca. 1250-1316), the Italian philosopher, astrologer, and professor of medicine, during his years in Paris (1293-1307). The main purpose of this paper is to study the contents, structure, and source texts of Pietro d’Abano’s Latin translation, their correspondence to Ibn Ezra’s Hebrew originals, Pietro’s references to his other translations, and his methods of translation.

KEYWORDS: Hebrew astrology; Hebrew to Latin translations; Hebrew to French translations; Hagin le Juif; Pierre de Limoges; Arnoul de Quincampoix.

PIETRO D’ABANO, TRADUCTOR DE LAS OBRAS ASTROLÓGICAS DE ABRAHAM IBN EZRA.—Desde la Edad Media hasta el presente, el desarrollo de la astrología judía ha sido asociado con Abraham ibn Ezra (ca. 1089-ca. 1161), quien compuso el primer corpus de textos astrológicos hebreos que trata los principales sistemas de la astrología grecoárabe y que otorgó amplio acceso a lectores hebreos a la astrología. Algunas de sus obras fueron conocidas por estudiosos cristianos durante su vida en el Occidente Latino y poco después de su muerte. Sin embargo, los escritos astrológicos de Abraham ibn Ezra quedaron fuera de la corriente principal de la literatura astrologica latina hasta las últimas

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décadas del siglo xiii. Entonces tuvo lugar un renacimiento de Abraham ibn Ezra en el Occidente Latino gracias a varios proyectos casi simultáneos de traducción de sus tratados astronómicos. El más amplio y famoso de esos proyectos fue el realizado por Pietro d’Abano, el filósofo, astrologo y profesor de medicina italiano durante su residencia en Paris (1293-1307). El principal propósito de este artículo es estudiar el contenido, estructura y los textos de origen de las traducciones latinas de Pietro d’Abano. Este artículo estudia también la correspondencia entre las traducciones latinas de Pietro d’Abano y los textos hebreos originales de Abraham ibn Ezra, las referencias de Pietro d’Abano a sus propias traducciones, y su modus operandi como traductor latino de Abraham ibn Ezra.

PALABRAS CLAVE: Astrología hebrea; traducciones del hebreo al latín; traducciones del hebreo al francés; Hagin le Juif; Pierre de Limoges; Arnoul de Quincampoix.

0. INTRODUCTION

From the Middle Ages until the present, the development of astrology among the Jews has been associated with the name of Abraham Ibn Ezra (ca. 1089-ca. 1161). He created the first comprehensive set of Hebrew astrological textbooks that addressed the main systems of Arabic astrology and provided Hebrew readers with access to the subject.¹ Some of his works became known to Christian scholars during his years living in the Latin West and shortly after his death. One of these works is a treatise on Ptolemaic astronomy composed in 1154 by certain Abraham Iudeus, which closely resembles parts of Ibn Ezra’s astronomical and astrological work and is known to modern scholarship as the Liber de rationibus tabularum.² Another is an astrological treatise on nativities composed in 1166 or slightly later, known as the Liber Abraham Iudei de Nativitatibus, whose contents are closely related to Ibn Ezra’s work

¹ Today we know of nineteen astrological works by him. For a list, sorted by the main genres of Greek and Arabic astrological literature to which they belong and accompanied by references to editions in which these treatises are available today, see Abraham Ibn Ezra Latinus on Nativities. A Parallel Latin-English Critical Edition of Liber Nativitatum and Liber Abraham Iudei de Nativitatibus, ed., trans., and annot. Shlomo Sela (Leiden: Brill, 2019), Appendix 1, pp. 435-438.


on nativities but has no counterpart in his extant oeuvre.\textsuperscript{3} However, Ibn Ezra remained outside the mainstream of Latin astrological literature until the last decades of the thirteenth century.\textsuperscript{4} Then an Ibn Ezra renaissance took place in the Latin West, thanks to a number of almost simultaneous translation projects.

One project was that of Henry Bate of Mechelen. In 1273, he commissioned a Jewish scholar named Hagin le Juif to translate four of Ibn Ezra’s astrological works from Hebrew into French.\textsuperscript{5} In 1281 and 1292 Bate produced six Latin translations of astrological treatises by Ibn Ezra.\textsuperscript{6} A second translation project was organized in the second half of the thirteenth century by Pierre de Limoges, who commissioned, and perhaps himself carried out, the translation of selected parts of three of Ibn Ezra’s astrological writings.\textsuperscript{7} Three more Latin translations of astro-

\textsuperscript{3} See Shlomo Sela, “Origins and Transmission of Liber Abraham Iudei de Nativitatibus: A New Appraisal Based on the Scrutiny of the Available Manuscripts and other Sources,” 

\textsuperscript{4} This emerges from the fact that neither Ibn Ezra’s name nor references to any of his works are found in the exhaustive catalogue of astrological writings in the Speculum astronomiae (Mirror of astronomy), composed around the middle of the thirteenth century, or in the Liber introductorius ad iudicia stellorum, the most important astrological work of the thirteenth century, composed by Guido Bonatti around 1270.

\textsuperscript{5} Preserved in two manuscripts (BnF, fonds français, MS 24276, fols. 1ra-125ra, and MS 1351, fols. 1ra-123rb). Hagin le Juif’s translations include the following items: (1) Li livres du commencement de sapience (= Reshit Ḥokhmah); (2) Livre des jugemens des nativités (= Moladot); (3) Le livre des elections Abraham (= Mivḥarim II); and (4) Le livre des interrogations (= She’elot II).

\textsuperscript{6} Henry Bate’s Latin translations include the following items: (1) De mundo vel seculo (= ‘Olam I); (2) Introductorius ad astronomiam (= Reshit Ḥokhmah); (3) De luminaribus seu de diebus creticas (= Me’orot); (4) Liber introductionis ad iudicia astrologie (= Mishpeṭei ha-Mazzalot); (5) Liber causarum seu racionum super hiis que dicuntur in Introductorio Abrahe qui incipit Sapiencie timor domini (= Ṭeʿamim I); (6) Liber causarum seu racionum (= Ṭeʿamim II). Only one of the six treatises translated by Henry Bate in 1281 and 1292 (Reshit Ḥokhmah) has a counterpart among the four translated by Hagin le Juif; see Shlomo Sela, “The Ibn Ezra – Henry Bate Astrological Connection and the Three Abrahams,” Mediterranea 2 (2017) pp. 163-186.

\textsuperscript{7} Pierre de Limoges was involved in the Latin translation of the almost complete text of Me’orot, and of selected chapters from Moladot and Reshit Ḥokhmah; see Shlomo Sela, “The Abraham Ibn Ezra-Peter of Limoges Astrological-Exegetical Connection,” Aleph 19:1 (2019) pp. 9-57, and David Juste, “Peter of Limoges,” in The Astrological Biography of a Medieval Philosopher: Henry Bate’s Nativitas (1280-1281), eds. Carlos
logical treatises by Ibn Ezra were the work of Arnoul de Quincampoix (d. before 1336), who served as physician to Philip IV the Fair (r. 1285-1314) and died before 1336. There are also a number of anonymous Latin translations of astrological treatises by Ibn Ezra that still remain to be studied.

But the most extensive and ambitious of all the translation projects was carried out by Pietro d’Abano (ca. 1250-1316), the Italian philosopher, astrologer, and professor of medicine, during his years in Paris (1293-1307). Thanks to the print edition by Petrus Liechtenstein in Venice in 1507, modern scholarship has devoted some attention to Pietro’s translations. One of them has been associated with Hagin’s corresponding French translation, without substantial proof; all of them have been catalogued and listed with their incipits and explicits, and the number of pages and folios in the print edition and a few manuscript witnesses. However, the contents, structure, and source texts of these Latin translation, their correspondence to Ibn Ezra’s Hebrew originals,

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8 Arnoul de Quincampoix’s three Latin translations are found in Ghent, Universiteitsbibliotheek, MS 5 (416): (1) De questionibus (She’elot II; fols 85r.13-91v); (2) De electionibus (Mivḥarim II; fols. 91v-96r); (3) Tractatus particulares (fols. 96v.6-103r.9).


10 See, below, abbreviation Ve.
Pietro’s references to his other translations, and his methods of translation, remain a terra incognita. The main purpose of this paper, which is divided into four parts, is to fill this lacuna.

In the first, I look at previous research on Pietro’s translations; in the second, Pietro’s translations of Ibn Ezra’s astrological writings are taken en bloc and general questions are asked about them; in the third, which constitutes the bulk of this study, Pietro’s seven Latin translations are studied separately, with the focus on their Hebrew counterpart, source texts, and the main features of Pietro’s modus operandi in the translation in question. In the fourth part I study the manuscript tradition by which Pietro’s translations were bequeathed to the following generations. At the end I summarize the findings of this study.

As this study is full of repetitive references to the same manuscripts or sources, I use the following abbreviations in the following formats. Each item in the following list is accompanied by a brief explanation:

- **Ba**, 132ra = Basel, Universitätsbibliothek, F.II.10, fol. 132ra (a 15th-century manuscript with five of Pietro’s translations)
- **Le**, 30v = Leipzig, Universitätsbibliothek, 1466, fol. 30v (a 14th-century manuscript with the earliest version of all of Bate’s Latin translations of Ibn Ezra’s astrological writings)
- **F1**, 26rb = Paris, Bibliothèque nationale de France, fr. 24276, fol. 26rb (a 13th-century manuscript with the earliest available version of Hagin’s four French translations of Ibn Ezra’s astrological writings)
- **F2**, 102ra = Paris, Bibliothèque nationale de France, fr. 1351, fol. 102ra (a 15th-century manuscript with Hagin’s four French translations of Ibn Ezra’s astrological writings)
- **L**, 84v = Limoges, Bibliothèque municipale, 9 (28), fol. 84v (a 15th-century manuscript, closely related to P1, with one of Pietro’s translations)
Crémone), p. 292, lines 715-721 (John of Seville’s Latin translation of Abū Ma‘shar’s *Great Introduction*)

**O**¹, 34ra = Oxford, Bodleian Library, Digby 212, fol. 34ra (a 14th-century manuscript with one of the earliest versions of four of Pietro’s translations)

**P**¹, 76rb-76va = Paris, Bibliothèque de la Sorbonne, 640, fol. 76rb-76va (a 13th-15th-century manuscript with the earliest copies of two of Pietro’s translations)

**P**², 63rb = Paris, Bibliothèque nationale de France, lat. 7336, fol. 63rb (a 15th-century manuscript with Pietro’s seven translations)

**P**⁴, 52va = Paris, Bibliothèque nationale de France, lat. 10269, fol. 52va (a 15th-century manuscript with Pietro’s seven translations)

**V**¹, 46vb = Vienna, Österreichische Nationalbibliothek, Cod. 5335, fol. 46vb (a 15th-century manuscript with Pietro’s seven translations)

**Ve**, IIra = *Abrahe Avenaris Iudei Astrologi peritissimi in re iudiciali opera ab excellentissimo philosopho Petro de Albano post accurratam castigationem in Latinum traducta* (Venice: Petrus Liechtenstein, 1507), sig. IIra (the print edition of Pietro’s seven translations)

**Z**, 81rb = Zurich, Zentralbibliothek, B.244 (769), fol. 81rb (a 15th-century manuscript with Pietro’s seven translations)

1. **P**revio**u**s Research

From the outset, Pietro’s Latin translations have been associated with Hagin’s French translations. The earliest reference, deeply influential in shaping later opinions, appears in an article on “Hagins le Juif,” by Paulin Paris, and published in the *Histoire littéraire de la France* in 1847. ¹¹ Abraham Ibn Ezra, who is erroneously stated there to have

flourished in Toledo in the twelfth century, occupies a central place in this article, which makes three main claims. The first is that twenty years after their completion (i.e., in 1273), Hagin’s French translations of Ibn Ezra’s astrological writings fell into Pietro’s hands (i.e., in 1293). No proof was provided to support this assertion. The second claim is that Pietro found Hagin’s French translations unsatisfactory, and therefore took upon himself the task of offering a clearer and more faithful Latin version of Ibn Ezra’s astrological writings. Paulin Paris based his second claim on the explicit of Pietro’s translation of Reshit Ḥokhmah (Beginning of Wisdom), which was quoted in full in the article according to the copy in Paris, Bibliothèque royale, MS Supplément latin 151 (today our P). The third claim is that Pietro’s Latin versions are superior to Hagin’s French. As an example, Paulin Paris cited “Henoch” and “Betelemieus,” names found in Hagin’s French translations and signs of his “grossoire ignorance,” which were restored to a clear meaning by Pietro as “Hermes” and “Ptholemus.” At the end, on the basis of a French manuscript in the Bibliothèque de la Sorbonne (today our F), Paulin Paris listed Hagin’s four French translations used by Pietro for his own Latin translations.

Moritz Steinschneider—in an article on Abraham Ibn Ezra composed in 1880, and in a six-line note on Hagin in Die Hebraeischen Übersetzungen, composed in 1893—devoted only minimal attention to Pietro’s Latin translations of Ibn Ezra’s astrological writings. After noting that Hagin’s French translations were carried out for Bate and mentioning that the latter translated Ibn Ezra’s Book of the World, without indicating his source for this, Steinschneider added only that Pietro also translated a number of writings by Ibn Ezra, which were published together in 1507. Note, however, that the 1880 article is entitled “Abraham Ibn Esra

12 Here Paulin Paris was following Bernardo de Rossi, Dizionario storico degli autori ebrei (Parma: Dalla Reale Stamperia, 1802) vol. 1, p. 7.

13 See, above, n. 5.

(Abraham Judaeus, Avenare),” and that “Abraham Avenare” and “Abraham Judaeus” are the distinctive names by which Pietro refers to Abraham Ibn Ezra in the incipits and explicits of his translations, as well as in his other works, as we shall see.

Lynn Thorndike followed in Paulin Paris’ footsteps. In the chapter on Pietro d’Abano in his History of Magic and Experimental Science, published in 1923, Thorndike explicitly mentioned Paulin Paris as his source, repeated the latter’s error about Ibn Ezra’s stay in Toledo in the twelfth century, and stated that Pietro found astrological writings by Ibn Ezra “defectively translated from Hebrew into French and therefore published a Latin revision of his own, apparently also adding treatises which had not been included in the previous translation.” Like Paulin Paris, Thorndike made this statement on the basis of an explicit in P4, but did not mention Hagin le Juif explicitly. In an appendix, devoted in part to the relationship between Pietro and Ibn Ezra, Thorndike mentioned three additional relevant manuscripts of Pietro d’Abano’s translations and listed Ibn Ezra’s works translated by Pietro that had not been translated into French. That some of Pietro’s Latin translations have no counterpart in Hagin’s French translations led Thorndike to speculate that perhaps Pietro could read Hebrew and Arabic, a possibility that Moritz Steinschneider had dismissed in 1904.

In The Astrological Works of Abraham Ibn Ezra, published in 1927, Raphael Levy allotted an entire section to showing that Pietro’s translations were the most important and influential of all the Latin versions of Ibn Ezra’s astrological writings, particularly through the Liechtenstein

16 These are: BnF 7336, BnF 7438, and Oxford, Canon Misc. 190.
17 These are Liber rationum (= Te’amim II), Liber luminarium (= Me’orot) and the Tractatus particulars; see Thorndike, A History of Magic and Experimental Science, vol. 2, pp. 926-930.
Levy followed in Paulin Paris’ footsteps by assuming, without proof, that Pietro’s are Latin versions of Hagin’s French translations. On the other hand, Levy invested a great effort to reject Paulin Paris’ contention that Pietro’s versions are superior to Hagin’s. Levy’s great advantage over Paulin Paris and Thorndike was that he was acquainted not only with Hagin’s French and the Latin versions of Bate and Pietro, but also with the Hebrew text of Ibn Ezra’s Reshit Ḥokhmah. This allowed him to show that Hagin’s “Henoch” and “Betelemieus” are not an indication of his gross ignorance but only faithful transliterations of Ibn Ezra’s Hebrew, thereby effectively challenging Paulin Paris’s assertion of the superiority of the Latin version. In addition, Levy offered a series of examples, some of them fairly confused, to paint the “Latin version as a poor translation of the French” and show that Pietro’s translations of Ibn Ezra are “far inferior to the Hebrew original in conciseness and lucidity.” But it never occurred to Levy that Pietro could have used an alternative French translation and that Pietro’s reliance on Hagin should have been demonstrated first.

Twenty years later Thorndike published a landmark article with the first list of all the Latin translations known to him of astrological treatises by Abraham Avenezra (the Latinized form of Abraham Ibn Ezra), including the manuscripts. They included ten manuscripts with copies of Pietro’s seven Latin translations of Ibn Ezra’s astrological writings. Thorndike’s list, however, included a work entitled De consuetudinibus in iudiciis astrorum, which the incipits do not assign to Ibn Ezra but to an otherwise unknown “Bethen.”

Recently Renate Smithuis made a significant contribution to the standard information transmitted by previous researchers. She found hitherto unknown sources behind one of Pietro’s translations, identified glosses in Hagin’s French translation and additions to Pietro’s translations, and suggested affinities between Pietro’s translations and other

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Latin astrological texts, such as the anonymous *Epitome totius astrologiae*.23

2. PIETRO’S TRANSLATIONS

Here I consider Pietro’s translations of Ibn Ezra en bloc and ask general questions about them. Were they conceived as a self-contained and organized corpus or as separated and unrelated texts? What motivated Pietro to produce them? How did he select the texts? Did he actually execute all of these translations? When were they composed? To answer these questions I begin with Pietro’s own references to his translations elsewhere in his work.

In his own compositions, Pietro quotes or paraphrases his Latin translations of Ibn Ezra’s astrological writings; in a few cases he even mentions the name of the relevant translation, as we shall see in due course. But even when he quotes or paraphrases some particular translation, Pietro generally presents himself as the Latin translator of Abraham Ibn Ezra’s books, in the plural. Moreover, to denote the act of translating, Pietro always uses the verb *ordinare*, “to set in order,” whereas in the incipits and explicits of the translations we find, in addition to *ordinare*, *transferre* and *redigere in Latinum*. This suggests that Pietro saw his main task as a translator to bring order out of the disordered source texts of Ibn Ezra’s astrological writings to which he had access. Let us see three examples.

(1) In his *Tractatus de Motu Octavae Sphaere* (henceforth *De motu*), composed in 1303, just before a quote from the aforementioned *Liber de rationibus tabularum*, Pietro speaks of “Abraham Avenare, cuius libros in seriem ordinavi latinam” = “Abraham Ibn Ezra, whose books I set in order in a Latin series <of translations>.”24 The phrase “in seriem

23 Renate Smithuis, *Abraham ibn Ezra the Astrologer and the Transmission of Arabic Science to the Christian West* (Doctoral dissertation, University of Manchester, 2004) chapter 1, section 7; chapter 3, section 1, chapter 6, section 2; and Appendix X.

ordinavi latinam” means that Pietro arranged his translations in a sequence.

(2) In his Conciliator Differentiarum quae inter Philosophos et Medicos Versantur (henceforth Conciliator), completed in Paris in 1303 and revised in 1310, Pietro refers to “Abraam Ebenare astrologus, quem in latinum ordinavi” = “Abraham Ibn Ezra, the astrologer, whom I set in order in Latin.” Note that it is not Ibn Ezra’s astrological books, but Ibn Ezra himself who is being set in order here. It is also remarkable that immediately after this statement Pietro brings a verbatim quotation from the Liber de Luminaribus, his Latin translation of Ibn Ezra’s Sefer ha-Meʾorot (Book of the luminaries, henceforth, Meʾorot). This is a clear indication that Pietro conceived of the Liber de Luminaribus as part and parcel of his corpus of Latin translations of Ibn Ezra’s astrological writings.

(3) In his Lucidator dubitabilium astronomiae (henceforth Lucidator), composed in 1303, Pietro defines astronomy and astrology. One of his sources in this regard is “Abraham duplex Avenare, cuius libros etiam in latinum ordinavi” = “the double Abraham Ibn Ezra, whose books I set in order in Latin.” Who are these “two Abrahams”? One Abraham is certainly “Abraham Avenare,” the Latinized form of Abraham Ibn Ezra, whose astrological writings Pietro translated into Latin. The other Abraham is Abraham Iudeus, “Abraham the Jew,” the author of Liber de rationibus tabularum, which Pietro quotes or paraphrases in his


26 See Pietro d’Abano, Conciliator controversiarum, quae inter philosophos et medicos versantur: Petro Abano Patauino, philosopho ac medico clarissimo, auctore (Venice: Giunta Lucantonio, 1565), Diff. XXIII, sig. 36ra.


29 See Millás Vàllicrosa, El Libro de los Fundamentos de las Tablas Astronómicas de R. Abraham Ibn Ezra, p. 73.
own oeuvre. The reference to “Abraham duplex Avenare” implies that Pietro took “Abraham Avenare” and “Abraham Iudeus” to be the same person. This is corroborated by the explicit reference, in another part of his Lucidator, to “Abraham Iudeus, appellatus Avenare” = “Abraham the Jew, called Ibn Ezra.” So Pietro refers here to the “double Abraham” because he is alluding to Ibn Ezra’s double contribution, astrological and astronomical, but he focuses his attention on Ibn Ezra’s astrological oeuvre en bloc, which he translated into Latin.

To glean further information I turn now to the incipit and explicit of Principium sapientie, Pietro’s Latin translation of Ibn Ezra’s Reshit Hokhmah, where we find valuable information about Pietro’s entire translation project. First I quote and translate the Latin texts, as found in the earliest available manuscripts, and then I discuss their contents. Note that the majority of the late manuscripts as well as the print edition have a considerably shorter version of the incipit and a slightly abbreviated version of the explicit. For easy reference, I have divided the incipit and explicit into fragments. Reference to them is made in the following format: I:2 = incipit, fragment 2; E:3 = explicit, fragment 3. Significant divergent readings are given in parenthesis following relevant words, preceded by the abbreviation of the source. On occasion I also examine the information provided by the incipits and explicits of the translations, which are presented in a separate appendix.

Incipit of Principium sapientie

P1, 76rb-76va; (cf. O1, 34ra; L, 84v): (1) Incipit Liber Completus in Magisterio Iudiciorum Astrorum qui compilavit Habraham Havenazaret

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30 Pietro quotes extensively from the Liber De rationibus tabularum in Lucidator, Differentia Secunda, “Proper tertium,” and in de Motu (VescoVini, Pietro d’Abano, pp. 189-190 and 356)

31 By contrast, when Bate refers to astrological treatises that we now know were written by Ibn Ezra, he assigns them to one of three different authors. All three are “Abraham,” but they have distinguishing cognomens; see Sela, “The Ibn Ezra – Henry Bate Astrological Connection.”


33 The astrological contribution is that made by “Abraham Avenare” in his astrological writings; the astronomical contribution is that made by “Abraham Iudeus” in the Liber de rationibus tabularum, a treatise on Ptolemaic astronomy.
Havenesret (O¹: Habraham Havenarre; L: Abraham) ex dictis sapientium et floribus antiquorum cuius quidem sunt 5. (O¹: 6.) tractatus (2) quorum primus est de arte introductoria in astrorum iudicia interpretatus per Petrum Paduanum tam verbum ex verbo quam sententiam ex sententia inferente.34

(1) Here begins the Complete Book on the Art of the Judgements of the Stars which Abraham Ibn Ezra compiled from the sayings of the wise and the flowers of the Ancients, of which there are 5 [or 6] treatises. (2) The first is on the introductory art of the judgments of the stars, translated by Petrus of Padua while he infers a word from a word as well as a sentence from a sentence.

Explicit of Principium sapientiae

P¹, 94rb-94va (cf. L, 115r-115v; O¹, 48rb): (1) Explicit Liber Principium sapientiae intitulatus, (2) editur ab Abrahae Nazareth vel Aezera Iudeo (O¹: Abraham Avenare aut Aezera Iudeus; L: Habraham Avesnezre vel Aezera Iudeo), qui Magister Adiutorii est appellatus, (3) quem cum Magister Petrus Paduanus invenisset in gallico idiomate (4) propter inperitiam transferentis ab ebraico in pluribus defectivum vel corruptum necnon et aliquando inordinate transpositum (5) una cum Iohanne de Crocheio (= L, 115v, line 1), (6) prout ei fuit possibile, latina lingua ad Abrahe priorem reduxit intellectum bene dictum omne, et textum et sententiam auctoris servando. (7) Nunc autem predictus Petrus ad aliorum librorum translationem Abrahe ordinatur ut ad Librum de Rationibus deinde ad Nativitatem et ad alios, quousque auctoris sit textum et sententia in latino. (8) Cum autem fuerit compilatus iste liber, erant anni a creatione Ade 4908. (9) Nunc autem existentibus annis incarnationis domini nostri Jesu Christi 1293, sunt anni Ade 5053 et 8 menses circa.

(1) Here ends the book called Beginning of Wisdom. (2) It was composed by Abraham Ibn Ezra, or Ibn Ezra, the Jew, who is called Magister Adiutorii.35 (3) When Master Petrus of Padua found <this book> in French, (4) because of the unskillfulness of the translation from the Hebrew, defective in many ways, corrupt, and sometimes poorly arranged, (5) with Johannes de Crocheio, (6) as far as he could he brought it back to Abraham’s original meaning in the Latin tongue, everything well-expressed, preserving the author’s text and the meaning. (7) Now

34 By contrast, this is the incipit of the print edition, a good representative of the versions offered by later manuscripts. Ve, IIra: Incipit liber introductionis Abrahe Aveneris in judicia astrorum qui dicitur principium sapientiae.

35 The rationale behind this curious name will be explained below.
the aforementioned Pietro is poised for the translation of other books by Abraham, such as the Book of Reasons, <the Book> of Nativities, and other <books>, until the author’s text and opinion is rendered into Latin. (8) When this book was composed, there were 4,908 years since the creation of Adam [= 1148 CE]. (9) Now there are 1293 years since the incarnation of our Lord Jesus Christ, which are 5,503 years and around 8 months <since the creation> of Adam.

A glance at the incipit and explicit of Principium sapientie shows that they serve as a sort of introduction to Pietro’s whole translation project. I:1 informs that the current incipit begins the translation of a Complete Book on the Art of the Judgments of the Stars, which consists of five or six treatises, all of them composed by Abraham Ibn Ezra. E:7 fleshes out the latter statement and says that, in addition to the translation of Beginning of Wisdom, that is, Ibn Ezra’s Reshit Hokhmah, already mentioned in E:1, the Complete Book on the Art of the Judgments of the Stars is planned to include Pietro’s translations of the Book of Reasons (that is, Ibn Ezra’s second version of Sefer ha-Ṭe‘amim), the Book of Nativities (Ibn Ezra’s Sefer ha-Moladot), and “other books”. We reach the conclusion that Pietro intended to create a sort of astrological anthology or encyclopedia composed of Latin translations of Ibn Ezra’s astrological writings on all the branches of astrology: first, introductions to the subject (Reshit Hokhmah and the second version of Sefer ha-Ṭe‘amim), next a treatise on nativities (Sefer ha-Moladot), and then treatises dealing with the other branches of astrology (interrogations, elections and medical astrology). Judging by the results, Pietro fully fulfilled this program.

Petrus of Padua –as Pietro d’Abano was often called from the larger city near his birthplace– is referenced in I:2 and E:3 as the translator of Principium sapientie, the first component of the astrological encyclopedia; E:7 presents him as ready to continue the translation of the remaining components of the astrological encyclopedia. That this program was put into effect by the same translator is confirmed by the incipits and explicits of each of the remaining six parts of the Complete Book on the Art of the Judgements of the Stars, all of which mention Petrus of Padua as their translator. 36

36 See, below, Appendix 1.
Likewise, Abraham Ibn Ezra is mentioned in I:1 and E:7 as the author of all the parts of the astrological encyclopedia, and in E:2 as the author of the specific translation, *Principium sapientie*. The incipits and explicits of the other six translations represent Abraham Ibn Ezra as their author, too.\(^{37}\) This is indeed true of six of the seven parts of Pietro’s astrological encyclopedia, which turn out be full translations of six Hebrew works by Ibn Ezra that are extant today, as we shall see. The seventh part stands alone, because no Hebrew counterpart in Ibn Ezra’s extant corpus is known and its affiliation with Ibn Ezra is unclear.

**E:2** assigns three names to Abraham Ibn Ezra. One is Abraham Avenare or Abraham Aveneznere, a latinized form of Abraham Ibn Ezra. The second is Aezeru Iudeus, Ibn Ezra the Jew. Pietro probably derived this name from Abraham Iudeus, the name of the author of the *Liber de rationibus tabularum*, which Pietro assigns to Ibn Ezra and which he quotes or paraphrases in his own oeuvre.\(^{38}\) It cannot be ruled out that Pietro used Abraham Iudeus to highlight Ibn Ezra’s Jewish identity. In any case, nowhere in his oeuvre does Abraham Ibn Ezra identify himself that way. The third name is Magister Adiutorii, a mysterious designation that appears in all the manuscripts and in the print edition of Pietro’s translation of *Reshit Hokhmah*. The rationale behind this curious name will be explained below.

**E:3-6** informs us about Pietro’s motivation for embarking upon his translation project and about the language of the source text of *Principium sapientie*: Having found a defective, corrupt, and sometimes meaningless French translation of *Reshit Hokhmah*, he was led to produce a Latin text that preserves the author’s text and restores the original sense of Ibn Ezra’s astrological doctrine. **E:5** also says that Pietro carried out his translation from the French with the assistance of Johannes de Grocheio. This probably refers to the musical theorist of that name (ca. 1255-ca.1320) who was active in Paris and is known as the author of *Ars musice* or *De musica* (ca. 1275), but who has never been mentioned in connection to Pietro or to astrological literature.\(^{39}\) Why did Pietro find

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\(^{37}\) See, below, Appendix 1.

\(^{38}\) See, above, nn. 29 and 30.

\(^{39}\) In *Ars musice*, Johannes de Grocheio mentions Franco de Cologne, whose *Ars cantus mensurabilis* is now thought to have been compiled ca. 1280. *Ars musice* deals...
fit to mention him here? We can speculate that Pietro, newly arrived in Paris and not sufficiently proficient in French when he began his translation project, ran into difficulties understanding the French translations of *Reshit Ḥokhmah* and of Ibn Ezra’s other astrological writings, and turned to his friend Johannes de Grocheio for assistance. The hypothesis that Pietro produced his astrological encyclopedia through the intermediacy of Hebrew to French translations is corroborated by the fact that the explicits of *Liber de nativitatis et revolutionibus earum*, Pietro’s translation of Ibn Ezra’s *Sefer ha-Moladot*, and of *Tractatus particulares*, Pietro’s only translation without a surviving Hebrew counterpart in Ibn Ezra’s astrological corpus, state that they were carried out from a French source text.\(^{40}\)

*E:7* provides the date of composition of *Reshit Ḥokhmah*, the Hebrew counterpart of *Principium sapientie*, according to the Jewish calendar: the year 4908 since the creation of Adam (= 1148 CE). This should come as no surprise: *Reshit Ḥokhmah* repeatedly states, after specifying the longitude of some celestial object subject to precession, that the stated value is valid “at this time.” At the very first occurrence of such a value, in the section on Aries in chapter 2, *Reshit Ḥokhmah* states that “this time” is the year 4908 AM = 1148 CE.\(^{41}\) Pietro follows suit and in his translation provides this date in the same manner as in *E:7*.\(^{42}\) Finally, *E:9* provides the date when the translation was completed, according to

with Parisian musical practices ca. 1300; Grocheio’s thoroughness in this regard leaves no doubt that he had experienced the musical life of the capital. His passing references to Aristotelian concepts such as *forma et materia*, to commentaries on the *De anima* (among other books), and his method of describing music, based on Aristotle’s natural-scientific works, suggest that Grocheio had studied in Paris, presumably attending a course of lectures there. We lack definitive proof that Grocheio gained a degree and a license to teach in Paris. However in the explicit of a manuscript of *Ars musice* (Darmstadt, MS 2663), Grocheio is given the title “magister,” that is, teacher, and named as “regens Parisius,” that is, a resident teacher at Paris; see Catherine Jeffreys, “Johannes de Grocheio, the *Ars musice* and the Transformation of Chant Theory in the Late Thirteenth Century,” *Journal of Music Research Online* 9 (2018) pp. 1-28, and Christopher Page, “Johannes de Grocheio on Secular Music: A Corrected Text and a New Translation” *Plainsong and Medieval Music* 2:1 (1993) pp. 17-41: 17-19.

\(^{40}\) See, below, Appendix 1, III, explicit; VII, explicit.

\(^{41}\) See *Reshit Ḥokhmah*, §2.1:40, 62-63.

\(^{42}\) *P1*, 78ra, line 32: “quod est a creatione Ade.4909. anni.”

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the Christian calendar, as would be expected, but also according to the Jewish calendar. It is remarkable that while the Christian date of composition of *Principium sapientie* is provided in years alone, the corresponding Jewish date is given in years and also months, which implies considerable proficiency in the Jewish calendar. This seems to be Pietro’s special way of acknowledging the basic fact that *Reshit Ḥokhmah* was composed by a Jew and is a translation of an Hebrew text.

3. Pietro’s Seven Translations of Ibn Ezra’s Astrological Writings

I now turn to studying Pietro’s seven translations of Ibn Ezra’s astrological writings, one by one, asking the following questions about each of them. What is the correspondence between the translation and its counterpart in Ibn Ezra’s astrological oeuvre? How does Pietro refer to the translation in question in his own works? Which source text did Pietro use for this translation? To which extent did he follow, deviate from, or introduce improvements to his source text?

3.1. The Principium sapientie

*Principium sapientie*, which survives in 18 manuscripts and one print edition, is a Latin translation, without additions or omissions, of *Reshit Ḥokhmah*, an introduction to astrology by Ibn Ezra divided into ten chapters, the longest of his astrological treatises, extant in at least 70 Hebrew manuscripts, and the treatise with the widest circulation of any of his astrological works among Jews in the Middle Ages and after.

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43 See, below, §4.
44 See, below, Appendix 1, I, first and last sentences.
Pietro refers to *Principium sapientie*, translated in 1293, in his *Liber compilationis phisonomie*, composed in 1295, while he was studying and teaching in Paris. Pietro organized the second chapter of that work into 12 sections, one for each of the zodiacal signs; in each of them he presented the physical appearance and psychological traits of natives born when the relevant sign rises. Precisely the same topic is addressed in each of the twelve sections on the zodiacal signs in chapter 2 of *Reshit Ḥokhmah*. At the end of the second chapter of *Liber compilationis phisonomie*, Pietro refers to his sources, including “Abrae Havensre Iudei dicitur *Principium sapientie* que quidem prout mihi melius possibilitas adfuit cum correctione ipsiusque declaratione in latinum ordi-navi” = “The Beginning of Wisdom by Abraham Ibn Ezra, the Jew, which I put in order in Latin in the best manner I could.”

3.1.1. The source text of *Principium sapientie*

The *Principium sapientie* is not the only translation of *Reshit Ḥokhmah* produced in the Latin West. It was preceded by *Li livres du Commencement de Sapience*, a French translation commissioned by Bate and executed in 1273 by Hagin le Juif, and by *Initium Sapientiae*, a Latin translation produced by Bate in Orvieto in 1292, almost simultaneously with *Principium sapientie*. Pierre de Limoges is also associated with the Latin translation of the final section of the fifth chapter of *Reshit Ḥokhmah*.


This treatise instructs readers on deciphering a person’s emotions, personality, intellectual capacities, and moral character from his or her physical features; see Sarah Kathryn Matthews, *Matter over Mind: Pietro d’Abano (d. 1316) and the Science of Physiognomy* (Ph.D. dissertation, University of Iowa, 2015) pp. V-VI.


See *Le*, 2ra-23va.

Ḥokhmah.\textsuperscript{50} Since Bate commissioned \textit{Li livres du Commencement de Sapience}, it stands to reason that he used Hagin’s translation for his own version of \textit{Reshit Ḥokhmah}.\textsuperscript{51} But was Hagin’s French translation also Pietro’s source text for \textit{Principium sapientie}?

As we have seen, Paulin Paris and Raphael Levy took this for granted, but without providing any direct proof.\textsuperscript{52} I can now offer abundant evidence that the French translation referred to in the explicit of \textit{Principium sapientie} is indeed Hagin’s \textit{Li Livres du Commencement de Sapience}.

(I) I begin with a comparison of the explicits of \textit{Reshit Ḥokhmah} (according to one of the manuscripts) and of Hagin’s and Pietro’s translations of \textit{Reshit Ḥokhmah}:

\begin{quote}

\textit{Reshit Ḥokhmah}, §10.3:6, 270-271:

\begin{quote}

נשלם ספר ראשית חכמה לראב”ע. 
ז”ל = This ends the book \textit{Beginning of Wisdom} by R”ʾA”B”ʿE (= Rabbi ʿAbraham the son of ʿEzrā), his memory for a blessing.

\end{quote}

\textit{F1}, 66rb (Hagin): Ci define li livres de Commencement de Sapience que fist Abraham Even Azre ou Aezera qui est interpretés Maistre de Aide. = Here ends the book \textit{Beginning of Wisdom}, which was composed by Abraham Ibn Ezra, or Ibn Ezra, whose translation is “Maistre de Aide” (i.e., master of help).

\textit{P1}, 94rb (Pietro): Explicit \textit{Liber Principium sapientie} intitulatus, editur ab Abraham Nazareth vel Aezera Iudeo, qui Magister Adiutorii est appellatus. = Here ends the book called \textit{Beginning of Wisdom}. It was composed by Abraham Ibn Ezra, or Ibn Ezra the Jew, who is called Magister Adiutorii (i.e., master of help).

\end{quote}

It turns out, then, that the Latin explicit is a translation of its French counterpart, which is a translation of the explicit of one of the manuscripts of \textit{Reshit Ḥokhmah}. It also emerges that the mysterious “Magister Adiutorii” of the Latin explicit is simply a translation of “Maistre de


\textsuperscript{51} This basic fact has not yet been fully demonstrated. I hope to soon publish a paper that discusses in depth the influence of Hagin’s French translations not only on Bate but on all the Latin translators of Ibn Ezra’s astrological writings.

\textsuperscript{52} See, above, §1.
Aide” in the French explicit. In the latter designation, the Latin “magent” translates the French “maistre,” which is a translation of the Hebrew abbreviation ר, which stands for “Rabbi,” and in this context means “teacher.” The Latin adiutorium accurately translates the French aide; both mean “help.” But the two explicits take “Magister Adiutorii” or “Maistre de Aide” to be a translation of “Aezera,” which is the last part of Ibn Ezra’s latinized name. Is this correct? The response is definitely in the affirmative: the Hebrew עזראʿezra means “help.” Hagin, who knew this, rendered the second element of Ibn Ezra’s latinized name as “aide” and created the name “Maistre de Aide.” Subsequently, Pietro, following Hagin but ignorant of Hebrew, turned this into “Magister Adiutorii.”

(II) Additional evidence comes from a passage on the tenth horoscopic place in the third chapter of Reshit Hokhmah:

Reshit Hokhmah, §3.14:1-2, 146-147: הנבזת העשירי יורה על האם, ועל המלוכה, ועל השם, ועל כל אומנות. ובעל השלישות ראשונה יורה על האם, והשני על מעלתו, והשלישי על אומנותו. = The tenth place signifies the mother, kingship, reputation, and every <human> craft. The first lord of the triplicity signifies the mother, the second <lord of the triplicity signifies> his [the native’s] rank, and the third <signifies> his craft.


P1, 86vb (Pietro):10a. domus significat reges, opera, sublimitatem, exaltationem, regnum, memoriam id est nominationem, vocem imperii, magisteria, matres, gloriam et laudem, rem ablatam aut furata aut iu- dicis, principes, prelatos atque dimidium annorum vitae. Et inquit alen- tixgos dominum triplicitatis primum denotare opus, exaltationem videli-

53 The same occurs in the explicit of Bate’s Initium sapientiae. Le, 23v: “Complete sunt.10. partes libri huius quem compilavit Magister Abraham Avenezre quod interpre- tatus Adiutorii.”

cet sedis altitudinem et status sublimationem. 2. vocem imperii et audaciam in illo. 3. vero stabilitatem et durabilitatem eiusmod.

[Both translations]: The tenth place signifies kings, works, highness, exaltation, kingship, memory, that is, reputation, utterance of supreme power, crafts, mothers, glory, praise, something taken away or stolen, judges, princes, rulers, and half of the years of life. Al-Andarzagar said that the first lord of the triplicity indicates work, exaltation, that is, highness of position and raising to a higher rank; the second <lord of the triplicity indicates> utterance of supreme power and courage in this; the third <lord of the triplicity indicates> stability and longevity.

Pietro follows Hagin’s translation closely. Both deviate considerably from the Hebrew version provided by the critical edition of Reshit Hokhmah and by all the manuscripts of the latter work I checked myself.

(III) Pietro follows slavishly Hagin’s French locutions that include Hebrew transliterations. Here are two examples: (a) Reshit Ḥokhmah assigns winds to the zodiacal signs. Sagittarius, for example, is allocated רוח קדיס, ruah qadim, “wind of qadim,” meaning “east wind.” 54 Hagin half translates half transliterates this locution as “vent de ruhaih.” 55 Pietro follows suit and writes “ventus ruhaih.” 56 (b) Where Reshit Ḥokhmah has ספרים כתובים, sefarim ketuvim, “written books,” 57 Hagin half translates half transliterates this locution as “le livre de kessuvim.” 58 Pietro follows Hagin slavishly and renders “liber kessinum.” 59

In three places where Ibn Ezra wrote צבעים or צבע, ṣevuʿim or ṣawūaʿ, means hyena(s), Hagin did not translate but transliterated as

55 F1, 22ra. The word cazim appears in the margin. This defective translation may be explained as follows: Hagin correctly translated the first word of the locution but ran into difficulties with the second word; the scribe who annotated Hagin’s French translation, instead of the translation of the second word (i.e., qadim), wrote the transliteration of the first Hebrew word of the locution (i.e., ruhaih), and in the margin wrote the transliteration of the second Hebrew word of the locution (i.e., cazim).
56 P1, 83rb.
57 Reshit Hokhmah, §2.7:17, 98-99.
58 F1, 82ra.
59 P1, 82ra.
sevohachim or scevoe. Here Pietro did offer translations: lupi and lupus, “wolves/wolf.” However, in a fourth passage where Ibn Ezra has ṣavua’, hyena, and Hagin transliterated scevoe, Pietro wrote canis ferus, “wild dog.” Here, though, canis ferus occurs in a marginal annotation alongside scevoe in F¹, the earliest surviving manuscript of Hagin’s translations; this suggests that in all the other loci where Pietro eschewed transliterations he took the translation from marginal notes in some lost manuscript of Hagin’s translations.

(IV) Pietro replicates Hagin’s inaccurate translations of Ibn Ezra’s Hebrew. Here are two examples:

(a) In Reshit Ḥokhmah we find ḫ ris reʿim, a biblical expression (Prov. 40:22) meaning “sociable.” But Hagin mistook the reš in the second word for a dalet, read ḫ ris deʿim, and consequently produced “home de science” = “man of knowledge.” Pietro followed suit: “scientieque homo.”

(b) Reshit Ḥokhmah has ṣamōnas ḫ lom ḫ baḥamot, bido ṣor = “his occupation is driving animals; in his hand he holds a whip.” Hagin did not understand this phrase and translated it as “son mester est a mener ses bestes en sa mein, eit it trai una charete” = “his occupation is driving animals with his hand; he holds a whip.” Pietro followed suit and translated “<bachelarius> cuius est officium animalia eius manu educere, et ipse trahit plausturm.”

(V) An eye-catching feature throughout Ibn Ezra’s oeuvre is his use of biblical words to denote scientific terms. Hagin correctly translated

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60 (1) Reshit Ḥokhmah, §2.5:24, 88-89; cf. F¹, 14va; P¹, 81ra; (2) Reshit Ḥokhmah, §2.16:13, 138-139; cf. F¹, 31va; P¹, 86ra; (3) Reshit Ḥokhmah, §4.3:10, 160-161; cf. F¹, 38rb; P¹, 87vb.

61 Reshit Ḥokhmah, §2.9:20, 110-111; cf. F¹, 22va; P¹, 83rb. Interestingly enough, Bate offers the same translation, canis ferus, in his own translation of Reshit Ḥokhmah; see Le, 8vb.

62 F¹, 22va.

63 Reshit Ḥokhmah, §2.10:24, 110-111; cf. F¹, 25ra; P¹, 84rb.

64 Reshit Ḥokhmah, §2.5:21, 88-89; cf. F¹, 14rb; P¹, 81ra.

65 Ibn Ezra believed they were relics of ancient Hebrew and thought he was restoring the original scientific meaning of biblical words whose definition had been forgotten;
some of Ibn Ezra’s neologisms in this category, such as גבול (Psalms 74:17), literally “border” for “climate” and מוצק (Job 36:16, 38:38), literally “solid, stable or strong,” for “center.”66 Pietro followed suit and provided straightforward translations of both terms.67

But other biblical locutions left Hagin quite bewildered; the best solution he found was to provide what he took to be a literal translation. Examples are חשב אפודת גלגל המזלות, “girdle of the vest of the orb,” and חשב האפודה, “girdle of the orb,” expressions derived from Exodus 28:8, which Ibn Ezra used frequently to denote the astronomical concept of the ecliptic.68 Hagin translated this locution as “pourcement de l’imagination de cercle des signes” and Pietro followed suit and rendered the same expression as “cingulum imaginationis circuli signorum.”69

Some of Ibn Ezra’s neologisms are calques of Arabic terms. One example relates to two very different concepts—the exaltation of a planet and the magnitude of a fixed star—both of which Ibn Ezra denotes by means of כבוד, literally “honor.”70 In both contexts Hagin translated this as “honneur”; Pietro followed suit and wrote “honor.”71 Other examples of this type are “honte,” Hagin’s rendering of Ibn Ezra’s “shame” or “dishonor” (the antonym of כבוד) for the astrological concept of dejection, and “chevillies” for יתדות, literally “pegs” but denoting the concept

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67 See Reshit Hokhmah, §2.1:17, 58-59 (הגבול השלישי;); cf. F1, 14rb (le tiers climat); P1, 81ra (.3m. clima) et passim; see Reshit Hokhmah, §3:1, 50-51 (סביב המוצק = around the center); cf. F1, 14rb (environ le centre); P1, 81ra (circa centrum) et passim.
68 These expressions refer to the girdle of the ceremonial vestments of the High Priest Aaron; see Sela, Abraham Ibn Ezra and the Rise of Medieval Hebrew Science, 137-139.
69 See Reshit Hokhmah, §1.10:5, 56-57 (חשב אפודת גלגל המזלות;); cf. F1, 3va (pourcement de l’imagination de cercle des signes); P1, 77rb (cingulum imaginationis circuli signorum) et passim.
70 The Hebrew כבוד, lit. “honor,” is a calque of שرف.
71 For exaltation, see Reshit Hokhmah, §1.11:1, 56-57 (כבוד;); cf. F1, 3vb (oneur); P1, 77rb (honor) et passim. For magnitude of a fixed star, see Reshit Hokhmah, §1.6:1, 54-55 (כבוד ראשון;); cf. F1, 2vb (oneur premerien); P1, 77ra (primi honorii) et passim.
of cardines or angles. Pietro followed Hagin and wrote “dedecus” and “caville.”

3.1.2. The Use of John of Seville’s Latin translation of Abū Maʿshar’s *Great Introduction*

Chapter 7 of *Reshit Ḥokhmah*, which is a Hebrew translation of several sections from part 7 of Abū Maʿshar’s *Great Introduction*, names and describes 30 planetary conditions. Some of the names of the planetary conditions used by Pietro in his translation are not derived from either the French translation or the Hebrew original, but are verbatim quotations from John of Seville’s Latin translation of Abū Maʿshar’s *Great Introduction*. Let us see some examples.

One of the planetary conditions mentioned by Abū Maʿshar is حصار, “besiegement” or “siege,” a military metaphor used in Arabic introductions to astrology to designate a condition in which a planet that is intermediate between two planets indicates misfortune. Ibn Ezra avoided the literal translation of the metaphor and referred to this condition asאמצעיות,” “intermediacy.” Hagin followed Ibn Ezra and translatedאמצעיות as “miloennetes,” meaning “being placed in the middle.” Pietro wrote obsesio, “siege,” which is John of Seville’s Latin calque ofحصار.

Another example is when Pietro, in addition to the literal translation of the name of a planetary condition he found in Hagin’s French translation, adds the Arabic transliteration of the name of the same planetary condition found in John of Seville. I present below the description of the condition of “similitude,” found in chapter 5 of *Reshit Ḥokhmah*, in

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72 For dejection, see *Reshit Hokhmah*, §2.4:36, 82-83 (חולה); cf. F¹, 12va (honte); P¹, 80rb (dedecus) et passim. For cardines, see *Reshit Hokhmah*, §3.4:2, 142-143 (פרדה); cf. F¹, 33rb (chevilles); P¹, 86va (caville) et passim.

73 *Reshit Hokhmah*, §7.1:1 through §7.3:8, 196-211 and notes on 438-457.


75 *Reshit Hokhmah*, §7.32:1-2, 219-211 (אמצעיות); cf. F¹, 51vb (miloennetes); P¹, 91vb (mediatio vel obsesio); LI, 307:1244 (obsesio).
Hagin’s and Pietro’s translations, as well as in John of Seville’s Latin translation of Abū Ma’shar:

Reshit Ḥokhmah, §7.31:1, 186-187:

= Similitude is when a masculine planet is above the earth by day in a masculine sign and in masculine degrees.

F1, 51va (Hagin): Et la samblance que est l’estoile masle de jours desur la terre et en signe male et en degres malles.

P1, 89va (Pietro): Haiz vel similitudo est ut sit planeta masculinus in die super terram et in nocte sub terra.

LI, 276:1227-1229 (John of Seville): Alhaiz autem ut sit planeta masculinus in die super terram et in nocte sub terra.

Here Pietro follows John, not only by including a transliteration of the Arabic حيز, ḥayyiz, “domain,” but also by offering a virtual replica of John’s translation, which deviates from Hagin’s French and from Ibn Ezra’s original Hebrew. Other places where Pietro’s word choice is the same as John’s are shown in the following table: 76

<table>
<thead>
<tr>
<th>Pietro</th>
<th>John of Seville</th>
<th>Ibn Ezra</th>
<th>Hagin le Juif</th>
</tr>
</thead>
<tbody>
<tr>
<td>translatio</td>
<td>translatio</td>
<td>התעתקה = transfer (to another place)</td>
<td>le remuement</td>
</tr>
<tr>
<td>pulsatio fortitudinis</td>
<td>pulsatio fortitudinis</td>
<td>תח ודח = giving power</td>
<td>le donement de la force</td>
</tr>
<tr>
<td>redditus luminis</td>
<td>redditus luminis</td>
<td>השבת האור = reflecting the light</td>
<td>le retournement de la clarte</td>
</tr>
<tr>
<td>refrenatio</td>
<td>refrenatio</td>
<td>הביטול = cancellation</td>
<td>le destorbement</td>
</tr>
<tr>
<td>abscisio luminis</td>
<td>abscisio luminis</td>
<td>הכותב האור = cutting the light</td>
<td>le detaillement de clarté</td>
</tr>
<tr>
<td>largitio</td>
<td>largitio</td>
<td>הנעם = pleasantness</td>
<td>le souvantume</td>
</tr>
<tr>
<td>Collectio</td>
<td>collectio</td>
<td>VESKWB = clustering</td>
<td>l’ammassement</td>
</tr>
</tbody>
</table>

76 The following names appear together, in the following loci: P1, 90vr and Ve, XXIII ra; LI, 292:715-721; Reshit Ḥokhmah, §7.1:1, 196-197; F1, 47rb-47va.

Pietro also interpolates transliterations of Arabic found in John’s Latin translation of Abū Ma’shar. This was another way to improve over Hagin’s version. A remarkable example relates to תלי, teli, used in medieval Hebrew astronomical and astrological literature to denote the nodes, that is, the points where a planet crosses the ecliptic. Here is the description of a planet at the nodes in Reshit Ḥokhmah, in Hagin’s and Pietro’s translations, and in its counterpart in John’s Latin translation of Abū Ma’shar:

Reshit Ḥokhmah, §5.5:6-7, 186-187: או יהיה הכוכב עם ראש התלי שלו או עם זנבו; או עם ראש התלי של לבנה או זנבו, ויהיומבנעしょうותופיקו. = Or if the planet is with the Head or Tail of its [the planet’s] Dragon; or with the Moon’s Head or Tail of the Dragon, and there is less than 12.º between them.

F1, 44ra (Hagin): Ou que soit l’estoile avec le chief de son dragon ou avec sa keue ou avec le chief du dragon de la lune ou avec sa keue, et est entre eus mains de.12. grés.

P1, 89va (Pietro): Aut sint cum capite suorum genazahat draconis aut cauda, aut cum capite genazahat lune, sitque inter eos minus.12. gradus.


Here Pietro, in addition to translating Hagin’s version (which, like Ibn Ezra’s original, has “dragon” in the singular), interpolates a transliteration of the Arabic-Persian termジョウザル, jawzahar, which he construes as a plural form, just as John of Seville does in his Latin translation.

3.1.3. The names of constellations and fixed stars

Another field in which Pietro improves significantly over Hagin is the names of constellations and fixed stars, which are prominent in Reshit Ḥokhmah. A distinctive feature of Reshit Ḥokhmah is the use for the constellations Hydra, Ophiuchus, and Serpens of the Hebrew word חיה, ḥayyah, “animal” – even though all three constellations are related
not to any animal but to a snake.\textsuperscript{77} Hagin follows suit and in all these cases translates “biche,” which means animal.\textsuperscript{78} Pietro, however, provides the correct names, as shown in the following table:

<table>
<thead>
<tr>
<th>Constellation/star</th>
<th>Reshit Ḥokhmah</th>
<th>Hagin le Juif</th>
<th>Pietro d’Abano</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydra</td>
<td>חיה ההתחלה = the animal §1.4:9, 52-53</td>
<td>la biche F\textsuperscript{1}, 2rb; in the margin: cetus</td>
<td>serpens vel edra P\textsuperscript{1}, 76vb</td>
</tr>
<tr>
<td>Ophiuchus</td>
<td>עוצרת החיה = the one who holds the animal §1.5:14, 52-53</td>
<td>qui retient la biche F\textsuperscript{1}, 2va; in the margin: serpentarius</td>
<td>serpentarius vel retinens serpentem P\textsuperscript{1}, 77ra</td>
</tr>
<tr>
<td>Serpens</td>
<td>חיה ההתחלה = the animal §1.5:15, 52-53</td>
<td>la biche F\textsuperscript{1}, 2rb; in the margin: serpens</td>
<td>serpens P\textsuperscript{1}, 77ra</td>
</tr>
</tbody>
</table>

A striking feature of medieval Hebrew appellations of constellation and fixed stars are biblical names, which appear side by side with other names that are Hebrew translations or transliterations of Arabic names. Three of these biblical names are ʿ\textit{ash} or “ʿ\textit{ayish and her sons” (Job 38:32 et passim), for Ursa Minor and Ursa Major; \textit{kesil} (Job 9:9 et passim) for Canopus or \textit{suhail}; and \textit{kimah} (Job 9:9 et passim) for the Pleiades. Ibn Ezra is one of the best representatives of this phenomenon. Hagin’s and Pietro’s renderings are shown in the next table:

\textsuperscript{77} This is so because the passages where Reshit Ḥokhmah has חיה, hayyah, are translations from the catalogue of constellation in Abū Ma’shar’s \textit{Kitāb al-mudkhal al-kabīr}, which employs the Arabic حَيْة, hayya, “snake.” Clearly, Ibn Ezra used the Hebrew word because of its homophony with the Arabic. In such cases, Ibn Ezra has no qualms about sacrificing the normative meaning of the Hebrew word; see Reshit Ḥokhmah, §2.1:25, 60-61 and note on 438.

\textsuperscript{78} See Reshit Ḥokhmah, §1.4:9, 52-54; §1.5:14, 52-54; §1.5:15, 52-54; §2.1:25, 58-59; §2.1:28, 60-61; cf. P\textsuperscript{1}, 2rb, 2va, 4vb, 5ra.
<table>
<thead>
<tr>
<th>Constellation/star</th>
<th>Reshit Ḥokhmah</th>
<th>Hagin le Juif</th>
<th>Pietro d’Abano</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ursa Minor</td>
<td>האחת עיש ובניה  &lt;br&gt;The first is 'ayish and her sons  &lt;br&gt;§1.5:2, 52-53</td>
<td>¥עיש et set enfants  &lt;br&gt;F1, 2rb  &lt;br&gt;¥עיש is written in Hebrew letters in the manuscript  &lt;br&gt;P1, 76vb-77ra</td>
<td>¥et est ursa minor cum ipsius puerculo  &lt;br&gt;P1, 77ra</td>
</tr>
<tr>
<td>Ursa Major</td>
<td>והאחת עיש ובניה  &lt;br&gt;The &lt;stars&gt; in the Greater Bear [Ursa Major], which are &lt;called&gt; 'ayish and her sons  &lt;br&gt;§2.15:3, 136-137</td>
<td>¥et celes qui sont en l’ours grant, &lt;br&gt;que c’est aeis  &lt;br&gt;F1, 30vb</td>
<td>¥qui autem in grandiori sunt ursa que sunt calixto et eius filius  &lt;br&gt;P1, 86va</td>
</tr>
<tr>
<td>α Car (Canopus or suhail)</td>
<td>בסיל ולמייאר חפירה  &lt;br&gt;the bright &lt;star&gt; called kesil  &lt;br&gt;§2.16:10, 136-137</td>
<td>¥et le cler qui est apelés kescil  &lt;br&gt;F1, 31rb  &lt;br&gt;in the margin: orion lucida id est feu ou cler ou aventure</td>
<td>¥lucida vero kesil vel suail dicta  &lt;br&gt;P1, 86va</td>
</tr>
<tr>
<td>Pleiades</td>
<td>והנולד באחת מעלות כימה  &lt;br&gt;One who is born in the degrees of kimah  &lt;br&gt;§2.2:27, 68-69</td>
<td>¥Et celi qui est nés en un des degrés de kima  &lt;br&gt;F1, 7va</td>
<td>¥natus autem in uno graduum kima  &lt;br&gt;L, 88v</td>
</tr>
<tr>
<td>Pleiades</td>
<td>וכנמה על גבן  &lt;br&gt;and kimah is on their back  &lt;br&gt;§1.3:3, 50-51</td>
<td>¥et kima sur leur dos  &lt;br&gt;F1, 2ra</td>
<td>¥Et kima super ipsius dos  &lt;br&gt;P1, 76vb</td>
</tr>
</tbody>
</table>
As expected, Hagin transliterates the biblical names. Pietro, too, offers a transliteration of *kima*, that is, the Pleiades. However regarding Ursa Minor, Ursa Major and Canopus, Pietro offers a correct translation. He probably knew the correct names because of his astronomical expertise.

3.2. *The Liber de Rationibus*

The *Liber de Rationibus*, extant in 10 manuscripts and one print edition, is a Latin translation of the second version of Ibn Ezra’s *Sefer ha-TeV'amim* (Book of Reasons, henceforth *Te’amim* II), which survives in at least 25 Hebrew manuscripts. *De rationibus* is a complete Latin translation of *Te’amim* II, but following the translation it brings an extensive tripartite addition, as will be shown in due course. A peculiar-

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Table: Constellation/star | Reshit Ḥokhmah | Hagin le Juif | Pietro d’Abano
--- | --- | --- | ---
Pleiades | מסה הנסך | Et *kima* est du mellement de mars et de la lune | *kima* quidem est de martis et lune
| *Kimah* is a mixture of Mars and the Moon | *P1*, 29vb | *P1*, 85va

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79 I have relied here on the earliest manuscript tradition (manuscripts *P1*, and *L*). Note, however, that other manuscripts translate *kima* as Pleiades; see, for example, *Ve*, *Ilva*, *Vva*, *XVira*.

80 See, below, §4.


82 See, below, Appendix 1, II, first and last sentences.
ity of *De rationibus* is that it includes two explicits: one after the end of the translation, and the other after the end of the addition.  

Ibn Ezra wrote the two versions of *Sefer ha-Ṭeʿamim* to flesh out the raw concepts formulated in *Reshit Ḥokhmah*. According to the aforementioned explicit of *Principium sapientie*,  

*De rationibus* was the second component, after *Principium sapientie*, of Pietro’s astrological encyclopedia composed of Latin translations of Ibn Ezra’s astrological writings, which indicates that Pietro took *Ṭeʿamim* II to be a commentary on *Reshit Ḥokhmah*. But Pietro was wrong: whereas the first version of Ibn Ezra’s *Sefer ha-Ṭeʿamim* is full of quotations from *Reshit Ḥokhmah*, it is virtually impossible to find obvious quotations from *Reshit Ḥokhmah* in *Ṭeʿamim* II. In fact, *Ṭeʿamim* II is a commentary on the almost completely lost second version of *Reshit Ḥokhmah*.  

In the discussion of the order of the planets’ orbs in his *Lucidator*, Pietro translates a long passage from *Ṭeʿamim* II in which Ibn Ezra endorses a partially heliocentric theory.  

Pietro says that the passage is by Abraham Ibn Ezra and does not mention *De rationibus*. It seems that Pietro was paraphrasing or improving on *De rationibus*, because the wording of the parallel passages in the *Lucidator* and in *De rationibus*, although sometimes similar, are by no means identical.

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83 See, below, Appendix 1, II, first and second explicits.
84 See, above, §2.
86 *Ṭeʿamim* II, §2.5:1-2, 194-192:  

יש מחלוקת גדולה בין החכמים אם נגה וכוכב חמה למעלה מהשמש או למטה ממנה, והיה זה הספק בעבור שלא יוכלו לראותם כשהם נמצאים עם השמש, ועבורה הם גוברים לפלשויה של כל אחד מהם. ולפי דעתי, שדברי核查 = יישו מתנה, כי פсал חמשון ומשה למשה, והיה יפרוש רזור."

“There is a great dispute among scholars about whether Venus and Mercury are above or below the Sun; this uncertainty arose because nobody can see them when they are in conjunction with the Sun, and also because they both have the same eccentric circle. But in my opinion all of them are right, for sometimes they [i.e. Venus and Mercury] are above and sometimes they are below <the Sun>, and this requires a long explanation.”

87 See *Lucidator*, Diff. Sexta, “Propter Secundum” (Vescovini, Pietro d’Abano, p. 316): “Unde Abraham Avenhare: non parum inter sapientes extat discordia, si Venus et Mercurius sint supra solem vel infra, cuius quidem causa, non quia sit eas, cum fuerint cum sole, videre et quoniam uniuscuiusque eccentricus est equalis, quod motus diei et totius indicat anni. Est enim ipsorum medius discursus et, iuxta tamen meam senten-
3.2.1. The source text of *De rationibus*

Other than *De rationibus*, the only Latin translation of *Ṭeʿamim* II known today is the *Liber causarum seu racionum*, produced by Bate in Orvieto in 1292. No French translation of *Ṭeʿamim* II has been found, even though it was Bate who commissioned Hagin’s French translations. This raises the question whether Pietro’s *De rationibus* and Bate’s *Liber causarum seu racionum* used the same source text, conjecturally a lost French translation by Hagin. To check this, I present three passages of *Ṭeʿamim* II and their counterparts in Pietro’s and Bate’s versions. The differences between them are underlined:

(I) The first example relates to the rationale behind the names of two categories of zodiacal signs:

*Ṭeʿamim* II, §2.4:16-17, 194-195:  
ביןוהים שבם על צורת בהמות, ואשר הם במים יולידו רבים. מזל הים סרטן.  
Intermediate <signs> have the shape of beasts, those that live in water produce many <offspring>. The sign of the sea is Cancer.


Intermediate <signs> have the shape of animals, those that live in water <produce> many <offspring>. All these things of this kind are very necessary in nativities, interrogations, and elections. The sign of the sea is Cancer.

Le, 51va (Bate): Mediocria autem sunt que in forma sunt bestiarum gressibilium que vero aqua seu aquatilia multorum generativa sunt. Et omnibus hiis opus est multum in nativitatibus et interrogationibus atque electionibus. Signum maris et aquarii Cancer.

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88 See Le, 49v2-60v2; L, 1-44; Sela, “The Ibn Ezra-Henry Bate Astrological Connection,” p. 169.
We see that Pietro and Bate added a clause that is not found in the critical edition and all the Hebrew manuscripts of Ṭeʿamim I checked.

(II) The second example is whether Capricorn belongs to the Sun’s or the left side:

\[ \text{Teʿamim II, §2.3:8, 188-189: So Capricorn is in the left side.} \]

\[ \text{V}^1, 21va (Pietro): Et ideo est Capricornius in parte Solis.} \]

Le, 50vb (Bate): Ideo Capricornus est de parte Solis.

Here Pietro and Bate assign Capricorn to the “side of the Sun,” where the Hebrew original assigns it to the “left side.”

(III) The third example, divided into three sentences, also relates to the rationale behind the names of the categories of zodiacal signs:

\[ \text{Teʿamim II, §2.4:4-5, 9, 192-193: (1) Heavens. Gemini is one of the airy signs and no sign is higher than it is because it is the extreme north; not so Cancer, because it is of a watery nature, and the heavens are air. (2) Demons. They said that Aquarius is the sign of demons because it is the house of Saturn, since it indicates the black bile which makes the demons visible … (3) In addition, if we place the Sun at the beginning of Aries, where it attains its strongest power, then the sign of the ascendant is Cancer.} \]

\[ \text{V}^1, 21vb (Pietro): (1) Gemini sunt ventorum signa, quorum nullum est altius est quam ultimum septentrionis, non sic quidem Cancer, est enim nature aque, aerei autem Gemini. (2) Principum autem signum posuerunt Aquarium, eo quod est domus Saturni, denotat enim melancoli- liam et diabolorum apparentiam … (3) Amplius si posuerimus Solem in} \]

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89 The zodiac is divided by astrologers into a “larger domain,” ascribed to the Sun, and a “smaller domain,” ascribed to the Moon. Each of the planets, except for the Sun and the Moon, has two houses, one in the Sun’s domain and the other in the Moon’s domain.

principio Arieties in medietate celi ubi fortificatur eius virtus, erit tunc ascendens Cancer.

(1) Gemini is of the signs of winds, and no sign is higher than it is because it is the extreme north; not so Cancer, because it is of a watery nature, and Gemini is airy. (2) They made Aquarius the sign of leaders because it is the house of Saturn, and it indicates the black bile and the appearance of demons … (3) In addition, if we place the Sun at the beginning of Aries, in the midheaven, where its power is strengthened, then the sign of the ascendant is Cancer.

Le, 51ra-51rb (Bate): (1) Gemini ipsi de signis aereis sunt et nullum signum inter signa est plus elevatum ipso eo quod in fine partis septentrionalis est et non sic Cancer quia de signis aequis est, Gemini vero de aereis. (2) Principes seu duces, legis lares scilicet et prophetae. Dixerunt quod Aquarius est signum ducum seu prophetarum eo quod domus Saturni est qui super melancholiam signat ac demonum visionem … (3) Amplius si ponamus Solem in principio Arietis in medio celi ubi virtus eius fortificatur tunc signum ascendens erit Cancer in spera recta sub recto circulo.

(1) Gemini is of the airy signs, and no sign is higher than it is because it is the extreme north; not so Cancer, because it is of a watery nature, and Gemini is airy. (2) Princes or leaders, law givers and prophets. The said that Aquarius is the sign of leaders or prophets because it is Saturn’s house, and indicates the black bile and the vision of demons… (3) In addition, if we place the Sun at the beginning of Aries, in the midheaven, where it its power is strengthened, then the Cancer is in right sphere.

Both Pietro and Bate deviate from the Hebrew original in all three sentences: (1) At the end of sentence §1, Pietro and Bate write that “Gemini is airy,” while the Hebrew original states that “the heavens are air.” (2) Sentence §2, according to the Hebrew original, focuses on השדים, “the demons,” but according to Pietro’s and Bate’s versions on principes or duces, “leaders.” (3) In sentence §3, the Hebrew original speaks of “the beginning of Aries,” but Pietro and Bate add in medietate celi “in the midheaven.”

The same picture emerges from all three examples: The translations by Pietro and Bate followed a divergent manuscript translation from the extant Hebrew. This indicates that Pietro and Bate used the same source text. At present we cannot identify this source text, but it is plausible to
assume that is a lost French translation of ʿTeʿamim II commissioned by Bate.

3.2.2. Pietro’s Innovations

Like Pietro’s other translations, De rationibus deviates from the Hebrew in ways that may be interpreted as his improvements on what he took to be a defective source text that does not appropriately reflect Ibn Ezra’s ideas. For one thing, he eschews literal translations of Hebrew terms and prefers the parallel Arabic transliterations used in the Latin astrological literature. Here are four examples:

(I) The first bears on Acehemena or azemena, a transliteration of الزمانة which is never used by Ibn Ezra but is found in al-Qabīṣī’s Introduction to Astrology to denote a category of zodiacal degrees that indicate chronic diseases. This transliteration is employed in both Latin translations of ʿTeʿamim II to denote the category of the موميم، “deformed” zodiacal signs:

 contestantia sapientium, or because the signs that have a human shape have no deformities, and Sagittarius is included among them.


Acehemena. They are known through the experience of the astrologers, and because the signs that have a human shape are not acehemenata, and Sagittarius is included among them.


91 For this category of signs, see Mishpeṭei ha-Mazzalot §2:16, in Abraham Ibn Ezra’s Introductions to Astrology, pp. 490-491.
Pietro’s use of *acehemena* or *azemena* should not come as a surprise. It may be found, for example, in John of Seville’s Latin translation of al-Qabīṣī’s *Introduction to Astrology*, probably carried out before 1135; in Guido Bonatti’s *Liber Introductorius ad Iudicia Stellaram*, composed after 1277; and in Leopold of Austria’s *De Astrorum Scientia*, composed soon after 1278.

(II) The second example relates to Arabic transliterations that were employed by Ibn Ezra. In the doctrine of nativities, the process of predicting the native’s lifespan starts with the identification of the five “prorogative places” or “places of life,” which fulfill two main functions in this prediction: (a) One of the five is chosen to be directed along the zodiac to a “place of death,” describing an arc that serves to calculate the native’s lifespan. (b) The planet that is considered to be the strongest in the chosen “place of life,” the so-called “ruler of the native,” will ultimately give “its years” to gauge the native’s lifespan. The following two passages from *Ṭeʿamim* II epitomize Ibn Ezra’s approach to these two astrological terms – “place of life” and “ruler of the native” – while Pietro’s corresponding translations exemplify his approach to Ibn Ezra’s terms:

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92 Al-Qabīṣī, *The Introduction to Astrology*, 251. The term is explained there as follows: *azemena* id est gradus debilitationis corporis; est enim *azemena* quedam debilitatio corporis temporalis, ut est cecitas, surditas, amissio membrorum et cetera talia = “Azemena is a degree of weakening of the body; in fact azemena is a temporary weakening of the body, like blindness, deafness, the loss of bodily members, etc.”

93 Guidonis Bonati Forolviensis Mathematici de Astronomia Tractatus X (Basileae, 1550), Ch. XXVI, col. 60.

94 *Compilatio Leupoldi ducatus Austrie filij de astrorum scientia Decem continens tractatus* (Venice: Erhard Ratdolt, 1489), sig. C5v.

95 “Direction” is a procedure in which an imaginary clock-hand or pointer is set in motion, starting at some zodiacal position, and moved around the zodiac at some specified rate until it reaches another zodiacal position. The arc drawn between these two zodiacal positions, usually projected onto the equator, is then converted into a corresponding number of years, months, and days that are used for a variety of astrological predictions.

96 Astrologers ascribe to each of the planets four degrees of years: least, middle, great and greatest years.
(1) *Ṭeʿamim* II, §6.2:11, 238-239: But if we cannot take the life from any of the four aforementioned rulers we should always direct the degree of the ascendant.

V1, 26va (Pietro): Et si accipere non poterimus yleg ab uno quatuor principantium iam dictorum gradus tune semper ducatur ascendentis.

But if we cannot take the haylāj from one of the four aforementioned rulers we should always direct the degree of the ascendant.

(2) *Ṭeʿamim* II, §6.2:5, 236-237: The Ancients said that the luminary is like the mother, and the lord of its place is the father, and therefore called the place of the luminary haylāj, meaning woman, and the lord kadkhudāh, meaning husband.

V1, 26rb (Pietro): Dixerunt et antiqui luminare esse in specie matris et principipatione in eius loco patris, et ideo locum luminarium nominaverunt yleg id est femina et principantem kadebra id est signatorem.

The Ancients said that the luminary is like the mother, and the lord of its place is the father, and therefore called the place of the luminary haylāj, meaning woman, and the lord kadkhudāh, that is, the significator.

In Arabic astrological literature the “prorogative place” or “place of life” and the “ruler of the native” are denominated haylāj and kadkhudāh. These two Arabic-Persian terms are conspicuous in Latin astrological literature related to the doctrine of nativities, as yleg and alkocoden, or other similar forms. As shown in the first passage, Ibn Ezra avoids these transliterations: for him, the “place of life” is הָחיים, “the life,” and the “ruler of the native” is מַושֶל, “the ruler.” Pietro translates the second term literally but shuns Ibn Ezra’s literal translation of the first term and resorts to yleg, the Arabic transliteration that is common in Latin astrological literature.

Passage §2 shows that Ibn Ezra employs haylāj and kadkhudāh only in the framework of a brief philological digression, when he wishes to make clear that these two Arabic-Persian terms are metaphors whose literal meanings do not coincide with their astrological function. Here Pietro, like Ibn Ezra, brings both the Arabic transliterations. However, regarding kadkhudāh, Pietro reveals its astrological function –“significa-
tor”– and says nothing about the literal meaning of the Persian term, as provided by Ibn Ezra: “husband.”

(III) The third example relates to astronomical nomenclature, in which Pietro seems to have been particularly proficient. The following passage presents the names of three spheres used in medieval astronomy:

(1) *Te’āmin* II, §4.4:3, §4.5:3, 210-211:

> ויהיה לנצוח גלגל המוצק כח רב… כי בגלגל הקטן במהרה ישתנה מגבהות לשפלות… הנה נקודת גלגלם לא תהיי נקודת אפודת הגלגל.

= Being victorious in the *circle of the center* (i.e., the eccentric circle) has great power … inasmuch as in the *small circle* (i.e., the epicycle) it passes quickly from apogee to perigee … then a point of their circles will not coincide with a point of the *girdle of the circle* (i.e., the ecliptic).

Victory in the *eccentric* *<circle>* has great power … inasmuch as in the *epicycle* it passes quickly from apogee to perigee … then the center of their circles will not be the center of the circle of the *ecliptic*.

Here Ibn Ezra uses distinct names for the three types of orbs: the *eccentric circle* is “הגלגל המוצק,” *the circle of the center,* because its center is offset from the center of the Earth; the *epicycle* is “הגלגל הקטן,” *the small circle,* because in medieval astronomy it was supposed to move along a great circle, called the *deferent,*; the *ecliptic* is “אפודת הגלגל,” *the girdle of the circle,* because it is the apparent path that the Sun follows through the zodiac over the course of the year. In all three cases Pietro declines to offer literal translations of Ibn Ezra’s peculiar terminology and instead provides the correct astronomical name of the circle.

(IV) The fourth example relates to Ibn Ezra’s view about idolatry, which he conveys as a digression in his account of the Indian astronomers’ view about the length of the solar year. This induces Pietro to offer his own view about idolatry.

(1) *Te’āmin* II, §8.3:2, 250-251:

> והז אמת רק כנגד הצורות ואין צורך לשמש שלהם רק למי شיתעסק בחכמת הצורות, ואני אסורה בתורת השם כי היא כדמות עבודה זרה.

= This is true only with respect to the images <of the constellations>; there is no need for their <opinion with regard...
to the motion of the Sun, except for those who deal in the science of the images of the stars, which is forbidden by the law of God, because it resembles idolatry (lit., foreign worship).

\[ V^1, 27vb \text{(Pietro): Et hoc est verum quantum ad imagines, et non expedit in anno Solis nisi qui se immiscebit scientie imaginum, necque faciendum est in lege iudeorum, est enim in speciem crucis.} \]

This is true respect to the images, and it is not useful for the solar year except for those who meddle in the science of the images, which is forbidden according to the law of the Jews, but it is compatible with the image of the cross.

The Indian astronomers measure the length of the solar year with respect to the images of the constellations; this method spurs Ibn Ezra to reveal his negative opinion about the place of worship of images in the framework of what he calls the “law of God.” Because Pietro regarded this opinion as offensive to his own religious belief, he abruptly interrupted the thread of the translation and rejected Ibn Ezra’s opinion, because it rules out the role of the the image of the Christian cross.\(^{97}\)

Other than the cognomen “the Jew,” which sometimes occurs in the incipits or explicits of Pietro’s translations or in his own works following the name Abraham Ibn Ezra, this is the only instance I have found where Pietro refer’s to Ibn Ezra’s Jewish identity.

3.3.3. A tripartite addition at the end of *De rationibus*

Immediately after the explicit, all the manuscripts and the print edition of *De rationibus* have an extensive tripartite addition,\(^{98}\) as follows.

\[^{97}\text{A similar approach is found in Bate’s translation of the same passage of } \text{Te’anim II; see Le, 60ra: “Et hoc quidem verum est sed tantummodo quam ad ymagines. non est autem eis opus pro anno solis sive solari sed pro illo quem sciendum negociatum ymaginem. Et hoc quidem faciendum est non in lege iudeorum quia ibi est imago crucis vel secundum aliam lecturam quia in similitudine est ritus sive cultus extranei.” = “This is true only with respect to the images, but there is no need of this for the solar year except for he who handles the science of the images. This is forbidden according to the law of the Jews because it includes the image of the cross, or, according to another reading, because it is like a foreign rite or worship.”} \]

\[^{98}\text{For this addition, see Smithuis, “Abraham ibn Ezra the Astrologer,” chapter 6, section 2.} \]
(I) The first part, approximately 200 words long, is introduced in some witnesses of *De rationibus* by the following statement: “Hic in fine istius libri ut possum inveni, et est principium super nativitatibus.” = “I found this at the end of the book the best as I could, and the beginning is about nativities.” This indicates that Pietro found the entire addition at the end of his source text of *De rationibus*, and that the first component of this addition addresses the doctrine of nativities. In fact, the first part of the addition is an alternative Latin translation of discontinuous passages from the introduction to the lost second version of Ibn Ezra’s *Sefer ha-Moladot*, on nativities, which survives in full in an anonymous Latin translation named *Liber Nativitatum*. All these passages, together with their counterpart in *Liber Nativitatum*, have been published in an appendix of the critical edition of *Liber Nativitatum*. A scrutiny of this translation reveals that it includes Pietro’s idiosyncratic vocabulary.

(II) The second part, approximately 160 words long, headed in some manuscripts *De gubernatoribus mundi* (“On the rulers of the world”), is about the seven angels that are in charge of the seven planets, the cycle in which each of them rules the world (lasting 354 years and four months), and the order of their rulership. *De gubernatoribus* mentions key events in the history of the Jewish people and designates the year

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99 See, e.g., *O*¹, 62va; *P*⁴, 52va-52vb; *P*², 63rb; *Z*, 58rb; *Ve*, XLIIrb-XLIIva.

100 This is also confirmed by a note in the margin of the oldest manuscript of *De rationibus*; see *O*¹, 62va. *Liber Nativitatum* is extant in two manuscripts; see Erfurt, Amplon O.89, fols. 53a-68b; Vienna, ÖNB, Cod 5442, fols. 203b-217b.


102 I.e., Affiel, Satkiel, Samael, Michael, Annael, Raphael, Gabriel.

103 I.e., Saturn, Venus, Jupiter, Mercury, Mars, Moon, Sun, which is the opposite of the order of the planets’ rulership of the days of the week; see, for example, *O*¹, 62va-62vb; *Ba*, 141ra-141rb; *P*⁴, 52vb-53ra; *P*², 63rb-63va; *Z*, 58va; *Ve*, XLIIva-XLIIvb. For a study of the 354-year cycle of planetary angels, see Ulrich Maichle, “Der 354-jährige Zeitenzyklus der Planetenengel” (Berlin, 2018), at http://www.michelnostradamus.net/index1.html.

104 *De gubernatoribus* mentions the Exodus from Egypt, which took place in 2448 A.M. under the Sun’s rulership; the destruction of the First Temple, which took place in 3338 A.M. under Jupiter’s rulership; and the construction and destruction of the Second Temple, in 3828 and 4708 A.M., under Mercury’s rulership.
4708 A.M. (947/8 C.E.) as the start of the Sun’s rulership. This implies that 1302 (= 948 + 354), which fell during Pietro’s life, is the terminus ante quem of De gubernatoribus. At the end, relying on the book of Daniel, De gubernatoribus mentions the angel Michael separately and speaks of him as princeps tempore Israël “ruler in the epoch of Israel,” and as princeps noster “our ruler.”

Ibn Ezra never refers to the seven angels together, nor to their being in charge of the seven planets, nor to their cycles of rulership over the world. However, in his long commentary on Daniel, Ibn Ezra refers to Michael as “the great ruler over Israel,” and states that “Michael is called the great ruler, so that he is in charge of the planets, which are the celestial host.” It is plausible, then, that De gubernatoribus drew on Ibn Ezra’s commentary on Daniel. That Pietro produced the Latin translation of the source text behind De gubernatoribus is fully supported by the fact that his Conciliator mentions the same seven angels as rulers of the same planets in the same periods.

(III) The last part, approximately 450 words long, is the most obscure. In some manuscripts it is headed De quibusdam eclipsis significationibus (“On certain significations of the eclipse”), and is based on a letter sent from Spain. De significationibus analyses a horoscope cast on an enigmatic date: “the 25th year, which is the beginning of the composition (?) of the Christians in the revolution of Aries, which is the beginning of the world-year.” The meaning of this enigmatic locution is somewhat clarified when De significationibus states that

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105 See O1, 62vb: Michael princeps, sicut scriptum est, tempore Israël, illo tempore stabit Michael noster princeps, in Daniele. = “Michael the ruler, in the time of Israel, in this time Michael will stand firm, our ruler, as it is written in <the book of> Daniel.”

106 See Abraham Ibn Ezra, Commentary on Daniel, Migrahot Gedolot (Venice 1525 [repr. Jerusalem 1972]), 7:14: מיכאל נקרא השר הגדול והנה תחתיו משרתים והם הצבא השמים; 12:1: השר הגדול על וילך. = “Michael, the great ruler, and his attendants are the celestial host.”


108 See, e.g., O1, 62vb-63ra; Ba, 141rb-141vb; P4, 53ra-53vb; P2, 63va; Z, 58va-vb; Ve, XLIIIvb-XLIVrb.

109 O1, 62vb: Ab Hispania venit littera.

110 O1, 62vb: “anno.25. qui est principium compositionis (?) Christianorum in revolutione Ariete que est principium anni mundi.” This horoscope prognosticates domina-
“likewise <the Moon> will be eclipsed in the month of Tevet in the 26th year, which corresponds to the 24th night of the month of December of the year 1265.” So “the 25th year” corresponds to 1264 C.E. In addition, *De significationibus* (a) creates a correspondence between Tam-muz and June; (b) speaks of another lunar eclipse that will take place on June 19, 1265, and of a solar eclipse that will take place in 1267; and (c) refers to a planet that is “in domo sui dedecoris,” a Latin translation of הבית קלינו, which is Ibn Ezra’s neologism used to denote “the house of its dejection.” Thus *De significationibus* incorporates substantial Jewish material (the correspondences between the two months on the Jewish and Gregorian calendars and a literal translation of a Hebrew astrological expression) and refers to a date that falls in Pietro’s life and is 30 years earlier than the date of composition of *De rationibus*.

*De rationibus* is sui generis in that it includes not one but two explicits, the first at the end of the translation of *Ṭeʿamim* II and the second at the end of the tripartite addition.115
3.3. The Liber de Nativitatibus et Revolutionibus Earum

Pietro’s Liber de nativitatibus et revolutionibus earum (De nativitatis), extant in at least 16 manuscript copies and one print edition, is a full Latin translation, with no additions or omissions, of Sefer ha-Moladot (the Book of Nativities), which survives in at least 53 Hebrew manuscripts. De nativitibus, is the third entry, after Principium sapientie and De rationibus, in Pietro’s Latin encyclopedia of Ibn Ezra’s astrological writings. The double title of Pietro’s translation (de nativitatis as well as de revolutionibus earum) reflects the fact that Moladot is divided into two main parts, addressing two different but closely related astrological systems: the doctrine of nativities, and the system of continuous horoscopy in nativities.

116 See, below, §4.
117 See, below, Appendix 1, III, first and last sentences.
119 See, above, §2.
120 This doctrine posits that the destiny of the newborn is determined by the configuration of the stars at the instant of birth and may be learned through analysis of the natal horoscope. The part of Moladot strictly addressing the doctrine of nativities consists of three main components: (1) a preface, in the form of eight ways, which explains away the essential weaknesses of the doctrine of nativities; (2) an introduction addressing the “rectification of the nativity,” that is, a variety of procedures to determine the ascendant of the natal horoscope when the time of birth is not known (the usual situation); (3) twelve chapters, addressing the indications related to the doctrine of nativities related to each of the twelve horoscopic places; see Moladot I 1:1 through III xii 4:4, 84-183.
121 This system posits that a new horoscopic chart should be cast every “revolution of the year” – when the Sun arrives at the same point in the zodiac where it was at the time of the native’s birth – or even at the beginning of every month, week, day, or hour, and that this new chart should be compared with the natal chart. In addition, certain periods of life are allocated to governing planets in a fixed sequence; see Moladot, IV 1:1 through IV 29:3, 182-203.
Differentia 49 of Pietro’s Conciliator, entitled *Utrum natus octimensis vivat, necne*, “Whether a baby born in the eighth month <of pregnancy> will live, or not,” addresses two ideas expounded in the first part of *Moladot*. One is the planets’ rulership over the months of pregnancy in the order of their orbs. The other is the *trutina Hermetis* or “balance of Hermes,” a literal translation of *moʿzenei Ḥanok*, “Enoch’s balance,” a term first used in *Moladot* to designate the concept of “rectification of the nativity.” Hence, it comes as no surprise that at the heart of differentia 49 of *Conciliator* we encounter the following passage:

*Conciliator*, Diff. XLIX, sig. 72vb-74rb: (1) Abraham, de nativitatis, siquis nascitur in.8. evenit causa preter naturam matri occurrente vel ex parte corporis ut morbus aut anime ceu timor confestim accidens, unde si egrediatur hoc mense morietur ipse et mater ipsius … (2) Si autem decimo moretur in utero mense, sub Martis nascitur dominio, et quia is laboriosis movetur motibus hinc iste agitatus egreditur at quia in fortuna calidus et siccus que plurime natus sub eo ponit Abraam Evenare vivere parum. Ego tamen, anno existens.53., velut a matre solertissima potui comprehendere ac per trutinam Hermetis nativitatis gradus ascendentis occulti investigationem repperi, morbem novem mensium et.14. dierum me in utero contraxisse.

(1) Abraham *said* in the *Book of* Nativities: If someone is born in the eighth month, if causes arise and something abnormal occurs to the mother, whether a serious disease in the women’s body or a sudden anxiety in the soul, such that the fetus is delivered in this month, he [the child] will die together with his mother … (2) But if <the fetus> is delayed in the womb until the tenth month, he will be born under the dominion of Mars, and since it [Mars] is moved by troublesome movements henceforth he comes out agitated, but since by fortune it [Mars] is hot and dry, he will be short-lived, like many newborns, as said by Abraham Ibn Ezra. I, *now* 53 years old, could understand from my most sagacious mother and discover through the trutina Hermetis and the investi-

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122 The “trutina Hermetis” was transmitted to the Hebrew and Latin cultures through the diffusion of Ibn Ezra’s astrological writings in Hebrew, Latin, and the European vernaculars, from the twelfth through the eighteenth century; see Shlomo Sela, “Calculating Birth: Abraham Ibn Ezra’s Role in the Creation and Diffusion of the Trutina Hermetis,” in *Pregnancy and Childbirth from Late Antiquity to the Renaissance*, eds. Costanza G. Dopfel and Alessandra Focati (Turin: Brepols, 2019) pp. 79-106. For the “trutina Hermetis,” see, below, §3.3.2.

gation of the hidden ascendant degree that the period of pregnancy in which I was carried in the womb was 9 months and 14 days.

The first part of this paraphrases a passage of De nativitatis, which is substantiated by Pietro’s acknowledgement of his reliance on Ibn Ezra. A similar quotation of a passage from De nativitatis occurs in Pietro’s Expositio problematum Aristotelis. In the second part of the quote above, Pietro applies Ibn Ezra’s “trutina Hermetis” to calculate the length of his own gestation (9 months and 14 days). This is again corroborated by the explicit mention of Ibn Ezra’s name. This is one of the first explicit mentions of the “trutina Hermetis,” but it is intriguing, because in the relevant passage of De nativitatis Pietro did not use the locution “trutina Hermetis,” but “equatio” or “investigatio Hermetis,” as we shall see.

I would suggest that Pietro took the term trutina Hermetis from the aforementioned Liber Abraham Iudei de Nativitatis, which also uses trutina to denote the concept of rectification of the nativity and assigns to Hermes the method that takes account of the duration of pregnancy in order to “rectify” the nativity. A scrutiny of the surviving manuscripts of one of the four versions of Liber Abraham Iudei de Nativitatis reveals that it incorporates long verbatim excerpts from Pietro’s De nativitatis. This supports the possibility that Pietro was the originator of this version of Liber Abraham Iudei de Nativitatis.

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125 See Moladot, II 7:1-12, 96-97.

126 See, above, n. 3.

127 For this term, see, below, §3.3.2.


3.3.1. The source text of *De nativitatibus*

Pietro’s *De nativitatibus* is the only complete Latin translation of *Moladot* produced in the Latin West.\(^{130}\) Pierre de Limoges, in the second half of the thirteenth century, translated sections of *Moladot*;\(^{131}\) Bate incorporated no fewer than 52 quotations, paraphrases, or references to *Moladot* in his astrological autobiography, composed in 1280.\(^{132}\) Earlier, in 1273, Bate commissioned Hagin le Juif to produce a complete French translation of *Moladot*,\(^{133}\) but Bate did not produce a complete translation of *Moladot*. Hagin’s translation, entitled *Le livre des jugemens des nativités*, is extant in two manuscript copies.\(^{134}\) Other than mentioning titles, incipits, and explicits, modern scholarship has hardly paid attention to the contents or source text of *De nativitatibus*. Did Pietro use Hagin’s French translation of *Moladot* for his own Latin translation? As in the case of *Principium sapientie*, there is abundant evidence that the answer is in the affirmative.

(I) I begin with a comparison of a passage of the preface of *Moladot* with its counterpart in the translations by Hagin and Pietro. The elements that reflect Pietro’s reliance on Hagin’s French are underlined:

\[
\text{Moladot, I 6:2, 86-87:} \\
\text{כי אם היו שני נולדים ברמח אחד במצדיה אחת} \\
\text{והאחת בן המשנה יבר משרה פורני, ושם הנאום על חלמבל ישמעל} \\
\text{גנוזה ולשגרה עליה, חותם בقيقة יושב מלך וּלשמוח להויה בהמות.} \\
\text{= If two children are born at the same moment in the same city, one of} \\
\text{them the son of a viceroy} \text{ and the other the son of a servant who tends} \\
\text{an oven, and the nativity \textit{<of each>}} \text{ predicts (lit. the nativity has the}
\]


\(^{131}\) See, above, n. 7.

\(^{132}\) See \textit{Steel et al., The Astrological Biography of a Medieval Philosopher}, pp. 88 and 269-270.

\(^{133}\) See \textit{Sela, “The Ibn Ezra-Henry Bate Astrological Connection.”}

\(^{134}\) \textbf{F}¹, 66rb-100va; \textbf{F}², 66rb-102ra.
power) that they will rise to higher rank and supreme power, then the son of a viceroy will become king and the son of the servant will become a merchant.

F¹, 67ra (Hagin): Car s’il sont.2. nes en une eure et en un pais et li uns fust fieus de senechal et li autres fust fieus sers servans, et il fust en la force de leur nativite qu’il montassent a haut degre et a segnorie souvreine, it monteroient en leur afferant, le fieus au senechal devenroit rois et le fieus au serf devenroit marcheant emplorant.

P¹, 98ra (Pietro): Si enim fuerint.2. nati hora una et in una patria, sitque alter filius senescalli, alter vero famulantis servi, monstraturque vigore nativitatis eorum ad gradum sublimitatis et dominium supremum conscendere, ascendent in eorum esse propotionaliter, filius enim senescalli efficietur rex, sed filius servi efficietur mercator lucrativus.

Both Hagin and Pietro use the Hebraism “il fust en la force de leur nativite” or “monstraturque vigore nativitatis eorum,” literal renderings of ויש בכח המולד, “the nativity has the power.” However, we also see that both of them deviate from the Hebrew original in the following three cases: (1) בן משתה, “the son of a viceroy,” is converted into a “fieus de senechal” or a “filius senescalli,” that is, “the son of a seneschal.” (2) בן משרת פורני, “the son of a servant who tends an oven,” is converted into “fieus sers servans” or “filius famulantis servi,” that is, “the son of the servant slave.” (3) סוחר, “merchant,” becomes a “marcheant emplorant” or a “mercator lucrativus,” that is, a “merchant who makes a profit.”

(II) Further evidence comes from the account of the duration of pregnancy as a function of the position of the Moon at the time of birth, in the introduction to Moladot:

Moladot, II 5:6, 92-95: על כן, אם היתה הלבנה בתחלת קו חצי השמים, הנה המעמד מאתים ושש ושש, אם היה בתחלת קו יתד התהום, הנה למעמד מאתים וחמישי יום. = Therefore, if the Moon was at the beginning of the line of upper midheaven, the term <of pregnancy> was 266 days, and if it was at the beginning of the line of the cardo of the abyss, the term <of pregnancy> was 280 days.

F¹, 69ra (Hagin): Sur ce se la lune fu ou commencement de l’une des chevilles, nous devons prendre la longement de sou lieu du commencement de la cheville, comme le commencement de la ligne de la cheville d’abisme, et donc est l’estage.280. iors.
Therefore, if the Moon was at the cusp of one of the cardines, we need to take the distance between its place and the beginning of the cardo, as the beginning of the line of the abyss, then the term <of pregnancy> was 280 days.

Pietro follows Hagin closely, and both deviate considerably from the Hebrew original as presented in the critical edition and in most available manuscripts. This is particularly evident in that Hagin and Pietro omit altogether the “line of upper midheaven” and the term of pregnancy of 266 days, and that instead of two clauses, as in the Hebrew original, their version has only one.

(III) Hagin employs calques of Ibn Ezra’s Hebrew scientific neologisms; Pietro then offers literal translations of Hagin’s French loan translations. As in Principium sapientie, this refers to חשב אפודת הגלגל, the “girdle of the vest of the orb,” denoting the ecliptic; 135 חקור, literally “border,” denoting “climate;” 136 כבוד, literally “honor,” denoting the exaltation of a planet; 137 קול, “shame” or “dishonor” (the antonym of כבוד) denoting the astrological concept of dejection. 138 De nativitatisibus contributes two new loan translations to this list: one derives from כלי הנחושת, “instrument of copper,” denoting the astrolabe, calqued by Hagin as “vaussiau de couvre,” and by Pietro as “instrumentum cupreum”; 139 the other derives from מוקוס כרת, “place of cutting,” de-

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135 See Moladot, III I 2:4, 98-99 (חשב אפודת הגלגל); cf. F¹, 70vb (pourceint de l’ymaginacion du cercle); P¹, 99ra (cinctur ymaginationis circuli) et passim.
136 See Moladot, I 3:1, 84-85 (הגבולים); cf. F¹, 66vb (regions); P¹, 97vb (climata) et passim.
137 See Moladot, III I 2:1, 98-99 (חבל); cf. F¹, 70vb (onnour); P¹, 99ra (honor).
138 See Moladot, III ii 3:6, 122-123 (кольון); cf. F¹, 78ra (honte); P¹, 101ra (dedecus) et passim.
139 See Moladot, III I 2:1, 98-99 (缓慢 תמרש); cf. F¹, 68va (vaussiau de couvre); P¹, 98ra (instrumentum cupreum).
noting a place of death,\textsuperscript{140} calqued by Hagin as “lieu de taillément” and rendered by Pietro as “locum abscissionis.”\textsuperscript{141}

3.3.2. Departures from the French translation

Pietro’s \textit{De nativitatis} evinces noteworthy deviations from Hagin’s renderings. They may be construed as Pietro’s improvements on his French source text, particularly the parts he considered defective. Let us see three examples:

(I) One relates to two closely related terms that occur in \textit{Moladot}:

\begin{enumerate}
\item \textit{מאזנים,} “balance,” Ibn Ezra’s translation of the Persian \textit{nimudar} (or \textit{namudar} or \textit{animodar}). This is the term commonly used in Arabic and subsequent Latin astrological literature to denote the concept of “rectification of the nativity,” that is, a variety of procedures to determine the ascendant of the natal horoscope when the time of birth is not known (the usual situation),
\item \textit{מאזני חנוך,} “Enoch’s balance,” Ibn Ezra’s designation of one of the most famous approaches to the rectification of the nativity.\textsuperscript{142} The following quotes illustrate Ibn Ezra’s use of these two terms and the corresponding translations by Hagin and Pietro:
\end{enumerate}

\textsuperscript{140} According to one of the most important astrological methods for the prediction of the native’s lifespan, death is represented as the climax in a continuous progression from an initial zodiacal point, one of the five “places of life” moving at the rate of one degree in one year, until it reaches another zodiacal position, a “place of death.”

\textsuperscript{141} See \textit{Moladot}, III I 10:2, 114-115 (\textit{מקום כרת}; cf. \textit{F1}, 75rb (lieu de taillément);
\textit{P1}, 100rb (locum abscissionis).

\textsuperscript{142} \textit{Moladot}, II ii 5:1-2, 92-93: (מאתונ חנוך. אמר חנוך: לעולם, במולד אדם, מקום הלבנה ברגע המולד היא המעלה הצומחת ברגע רדת הטיפה ברחם, והמעלה הצומחת ברגע המولد שם היתה הלבנה ברגע הטיפה. על כן, אם ידענו רגע הטיפה, נוכל לדעת רגע המולד, ומאזני חנוך. Therefore, if we know the moment of the drop, we can know the moment of the \textit{descent of the} drop into the womb, and the ascendant degree at the moment of birth is the position where the Moon was at the moment of the \textit{descent of} the drop \textit{into the womb}. Therefore, if we know the moment of the \textit{descent of the} drop we can know the moment of birth, and if we know the moment of birth we can know the moment of the \textit{descent of the} drop.”

Moladot, II 4:3-5, 92-93: Therefore, I realized that this balance is nonsense. An Indian scholar, too, mentioned three other balances, but all of them are foolishness. <Only> Enoch’s balance is true.

F, 68va-vb (Hagin): Pource m’est il cler que ces balances sont mes prison et ment. Jerres ramentut uns sages d’inde.3. balances autres et tretouted emportera le vent. Et le voir si sont les balances de Enoch.


Pietro avoids “balance” and “Enoch’s balance” and instead offers modus investigationis or equatio for “balance” and investigatio Hermetis for “Enoch’s balance.” This contrasts with the usage of the calque “trutina Hermetis” in the Conciliator, where Pietro, as we saw, was probably following a source that used the term “trutina Hermetis.” 143 However, in De nativitatibus Pietro was driven by other motivations. He probably regarded “balance” as an ill-chosen term. The method assigned to Enoch or Hermes, for example, has nothing to do with “balance” or weighing and consists in calculating the positions of the Moon and of the ascendant at the times of birth and of conception and finding correspondences between them. Therefore, it is reasonable to assume that Pietro, instead of the weird and illogical “trutina,” preferred investigatio or equatio, which are much more harmonious with the essential features of the various methods of rectification of the nativity. For the term investigatio, Pietro could have been motivated by the following expression in al-Qabīṣī’s Introduction to Astrology: “animodar, quod est investigatio gradus ascendenti.” 144

(II) Another example bears on the talmudic term שְليل (M Zevahim 3:5), “embryo,” which occurs four times in Moladot in a section on the duration of pregnancy. It is plausible that Hagin had never encountered this rather unusual Hebrew word and therefore rendered it in translit-

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143 See, above, §3.3.

144 See Al-Qabīṣī, The Introduction to Astrology, IV:3, p. 316.
eration as *salil*. Pietro, probably relying on his own medical expertise, rendered it correctly as *embrio* in all four loci.\(^{145}\)

(III) We have already seen that Pietro, in his *Principium sapientie*, following Hagin, employs a literal translation of Ibn Ezra’s biblical neologism, literally “solid, stable or strong,” but used by him to denote “center.”\(^{146}\) This changes dramatically in *De nativitatis*, because in *Moladot* מוצק occurs as an essential component of astronomical locutions. Here Pietro opts for his Latin astronomical vocabulary and markedly departs from literal translations. Two examples illustrate this point:

(a) *Moladot*, III ii 5:4, 124-125:

\[
\text{תחלת גבהותו בגלגלו的伟大 מוצק הארץ}.
\]

= Beginning of its apogee on its great circle whose center is distant from the center of the Earth.

\[F^1, 78vb (Hagin): \text{le comencement de la hautece en son cercle grant que son centre est loins du centre de la terre.}\]

\[P^1, 101rb (Pietro): \text{principium sue augis in suo ecentrico.}\]

(b) *Moladot*, III vii 4:1, 160-161:

\[
\text{קרוב ממקום גבהותו בגלגל המוצק.}
\]

= Close to its apogee on the eccentric circle (*lit.* close to its apogee on the circle of the center).

\[F^1, 88vb (Hagin): \text{pres du lieu de sa hautece et en contre le cercle du centre}\]

\[P^1, 104ra (Pietro): \text{propinquior loco sue augis respectu circuli eccentrici.}\]

These two examples refer to the eccentric circle, in which the Earth is not at the center of the circle but at some point slightly displaced from it. Ibn Ezra repeatedly uses מוצק, “center,” in two different manners, to describe rather than name this type of circle. Hagin follows suit and offers a wholly literal translation of Ibn Ezra’s locutions. Pietro, however, conspicuously shuns Hagin’s literalism and employs the appropriate

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\(^{145}\) See *Moladot*, II 7:3, 96-97 (*שלייל*; *cf.* *F*¹, 69vb (*salil*); *P*¹, 98vb (*embrio*) et passim.

\(^{146}\) See, above, §3.1.1.
technical term: *ecentricus*” or *circulus ecentricus*, rather than Hagin’s (and Ibn Ezra’s) long and tedious expression.\(^{147}\)

3.4. The Liber de Interrogationibus

Pietro’s *Liber de interrogationibus*, extant in at least 12 manuscript copies and one print edition,\(^{148}\) is a full Latin translation of the second version of Ibn Ezra’s *Sefer ha-Sheʾelot* (Book of Interrogations, henceforth *Sheʾelot II*),\(^{149}\) which survives in at least 18 Hebrew manuscripts.\(^{150}\) *De interrogationibus* addresses the astrological doctrine of interrogations, designed to allow astrologers to answer questions related to daily life on the basis of a horoscope cast for the time when the querent poses his question.

3.4.1. The source text of *De interrogationibus*

Besides *De interrogationibus*, we know of three other Latin translations of *Sheʾelot II*. One was carried out by Arnoul de Quincampoix;\(^{151}\)

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\(^{147}\) In his *Principium sapientie*, however, faced with the need to translate a similar locution, Pietro follows Hagin and makes do with a literal translation; see Reshit Ḥokhmah, §§5.3.2, 184-185: עולה בגלגל הגבהות והשפלות שמוצקו далек ממרכז הארץ = "ascends in the circle of apogee and perigee whose center is far from the center of the Earth;" cf. F\(^1\), 43va (Hagin): Soit montant ou cercle de sa hautece et de sa basseté c’est celi que son centre est loing du centre de la terre; P\(^1\), 85rb (Pietro): ascendens in circulum sue augies et eius oppositi cuius centrum remotius est a centro terre.

\(^{148}\) See, below, §4.

\(^{149}\) See, below, Appendix 1, IV, first and last sentences.


\(^{151}\) This translation is entitled *Liber de questionibus* and is found in Ghent, Universiteitsbibliotheek, 5 (416), fols. 85r-91v.
the other two are anonymous. In 1273, Bate commissioned Hagin le Juif to produce a French translation of Sheʿelot II –Le livre des interrogations– which is extant in two manuscripts Modern scholarship has paid scant attention to these five translations of Sheʿelot II. Did Pietro use Hagin’s complete French version? I offer three examples to support an affirmative answer. In all three, the Hebrew original, on the one hand, and the French and Latin translations, on the other, are accompanied by separate English translations.

(I) I begin with a statement assigned to Māshāʾallāh in the introduction to Sheʿelot II:

\[\text{Sheʿelot II, §9:1-3, 354-355:} \]
\[ויאמר משאלה: לעולם הסתכל, אם רצית לדעת על מה שאלו השואלים, אל ה魄יד על הגלגל, והטעם מי שיש לו זוהר \]
\[למשלא בהמשת השרים, וה簩ע במקומם הם פגומים יחדו. = Māshāʾallāh said: if you want to know what the querent asked, always observe the lord of the orb, meaning <the planet> that has more lordship over the five rulers, meaning <more lordship> over their positions, which are the places of life.} \]

F1, 115ra-115rb (Hagin): Et dit Meshalla: se tu viens savoir verite de ce q’on te demande, garde to iors au planete que a plus de dignete es.5. lieus de la vie, car il est ballif.

V1, 39vb (Pietro): Inquit Mesahac: si volueris scire veritatem eius quod interrogaveris respice semper planetam habentem dignitates plures in.5. locis vite quod est signator.

Māshāʾallāh said: if you want to know the truth of what you are asked, always observe the planet that has most dignities in the five places of life, because it is the significator.

Hagin’s and Pietro’s renderings have the same word order, formulation and details, which deviate markedly from the Hebrew original. We also see that in Hagin’s and Pietro’s renderings there is no counterpart to השואל “the querent,” to ה魄יד על הגלגל “lord of the orb,” or to המשת על השרים “five rulers,” which are found in the Hebrew original; and that

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152 One translation survives in two manuscripts: Erfurt 0.83, fols. 30r-39v and ÖNB, Cod. 5442, fols. 188rb-192vb. The other translation is extant in two manuscripts: Digby 212, fols. 67v-71vb; Sloane 312, fols. 1r-8v.

153 F1, 113va24-125ra23; F2, 110va-123rb.
in the Hebrew original there is no counterpart to the “savoir verite” = “scire veritatem” and “.5. lieus de la vie” = “.5. locis vite” of Hagin’s and Pietro’s versions.

(II) A second example, from the sixth chapter of She’elot I, deals with whether a sick person will recover:

She’elot II, §6.1:2, 366-367: "וככה אם היה בית החמישי או בית הששteenth עשר, אם היה בית השביעי השמיני יموت, או אם היה על השמיני ימות. העולים כוכב טובי, זיהוי, זיהוי, זיהוי, זיהוי, זיהוי. The same applies if it is in the fifth or eleventh place, but if it is in the eighth place, he will die; or if the lord of the eighth place in the rising sign is a benefic planet, he will survive, but if <it is> a malefic <planet> he will die.

F1, 128ra (Hagin): Et se il est en meson.5e. ou.11. trespassera sur li engoisse grant, se il n’est receus en bien, et si fu en meson.8e. estoile bone vivra, et si male morra.

V1, 40vb (Pietro): Quod si fuerit in domo.5a. aut.11a. transibunt angustie magne super eum nisi fortunate fuerit receptus, quod si.8a. fuerit fortuna, vivet, et si malus morietur.

If it is in the fifth or eleventh place he will suffer great afflictions unless it is received in a fortunate configuration, for if a benefic <planet> is in the eighth <place> he will live, and if malefic <planet is in the eighth place> he will die.

We see, then, that the Hebrew original, on the one hand, and Hagin’s and Pietro’s versions, on the other, differ in the formulation, word order, and details of the sentence. For example, "בעל השמיני במזל העולה" = "the lord of the eighth place in the rising sign," in the Hebrew, disappears from the French and Latin versions, and "engoisse grant, se il n’est receus en bien" = "angustie magne super eum nisi fortunate fuerit receptus," which occurs in the French and Latin versions, is not in in the Hebrew.

(III) A third brief item of evidence occurs in the very last section of She’elot II, about finding the time when some event will occur:

She’elot II, §12.8.3, 394-395: "ואם לא יביט הוא, קח השליט, ואם גם השליט לא יביט, קח הלבנה. If it does not aspect <it>, take the ruler, and if the ruler does not aspect, take the Moon.

F1, 128va-128vb (Hagin): Et se il ne regarde, pren le seigneur de l’ennieur, et se il ne regarde, pren la lune.
V¹, 43ra (Pietro): Quod si non aspiciat, accipe dominum honoris, qui si non aspiciat, accipe lunam.

If it does not aspect <it>, take the lord of exaltation, and if it does not aspect, take the Moon.

Where the Hebrew original refers to the הרשליט, the “ruler,” Hagins and Pietro refer to “le seigneur de l’enneur” and “dominum honoris,” that is, the lord of the exaltation.

To sum up, all three examples display the same phenomenon: some points of coincidence notwithstanding, the Hebrew original, on the one hand, and Hagin’s and Pietro’s versions, on the other, deviate markedly. All this demonstrates that Pietro follows Hagin closely and that Hagin relied on a lost or still unidentified manuscript that is different from that used for the critical edition of She’elot II.¹⁵⁴

3.4.2. An extensive addition in De interrogationibus

In the middle of the sixth chapter, De interrogationibus interpolates an addition of approximately 250 words on the same topic addressed by the sixth chapter before this interpolation: whether a sick person will recover.¹⁵⁵ This explains why Pietro interpolated the passage into his translation. It is found in all the available manuscripts and in the print edition of De interrogationibus.¹⁵⁶ It does not occur in any of the other three Latin translations of She’elot II or in the Hebrew original of She’elot II. Where did Pietro find it?

¹⁵⁴ However, as suggested by one of the anonymous reviewers of this article, we cannot rule out that this lost or still unidentified Hebrew version of several of Ibn Ezra’s astrological works was presumably available to scholars other than Hagin. Therefore, it is possible that when a peculiarity in the Latin translation agrees with Hagin’s French text and has no equivalent in any of the extant Hebrew manuscripts of Ibn Ezra’s works, that peculiarity could derive directly from the lost Hebrew original of Hagin’s translation, and not indirectly via Hagin’s French. In my opinion, though, the evidence suggests that Pietro used only Hagin’s French translation.

¹⁵⁵ The addition occurs between the end of §6.1:10 and the beginning of §6.2:1 in She’elot II, ed. Sela, pp. 368-369. For this addition, see Smithuis, “Abraham ibn Ezra the Astrologer,” Appendix X.

¹⁵⁶ See, e.g., V¹, 40vb:27-41ra:6; Ve, LXIIib-LXIIva.
A closer look reveals that the addition is a verbatim Latin translation of a French text found in the two manuscripts of Hagin’s French translations of Ibn Ezra’s astrological writings.\textsuperscript{157} While in Pietro’s \textit{De interroga\-tionibus} the addition occurs as an integral part of the sixth chapter, the parallel French text occurs at the very end of these two manuscripts, immediately after the end of the copy of \textit{Le livre des interrogations}. The French parallel text in both manuscripts is separated from the \textit{Le livre des interrogations} by a title: “Sur le liver des questions, sur la.6. meson” = “According to the Book of Interrogations, according to the sixth <horoscopic> place,” in the earliest of them, and “De la.6. maison es questions” = “On the sixth <horoscopic> place in interrogations,” in the other manuscript. This interpolation demonstrates without a shadow of doubt that Pietro used one of the manuscripts of Hagin’s French translations of Ibn Ezra’s astrological writings.

I have not yet found a direct Hebrew match for this interpolated passage. However, the Latin and French parallel additions do have an approximate counterpart in a section of the sixth chapter of \textit{Liber Interrogationum}, an anonymous Latin translation of the now almost completely lost third version of Ibn Ezra’s of \textit{Sefer ha-She’elot} (\textit{She’elot III}).\textsuperscript{158} In all likelihood, the Hebrew source of the interpolation and \textit{She’elot III} drew on the same unknown source. To corroborate all the points made in this section, Appendix 2 displays the entire Latin and French additions and their counterpart in \textit{Liber Interrogationum} in facing columns.\textsuperscript{159}

3.5. The Liber de Electionibus

Pietro’s \textit{Liber de electionibus}, extant in at least nine manuscripts and one print edition,\textsuperscript{160} is a full Latin translation of the second version of Ibn Ezra’s \textit{Sefer ha-Mivharim} (Book of Elections, henceforth

\textsuperscript{157} See F$^1$, 125ra-125va; F$^2$, 123va-123vb.
\textsuperscript{158} See \textit{Liber Interrogationum}, Amplon. O.89, fol. 25v; ÖNB, Cod. 5442, fol. 183rb-183va.
\textsuperscript{159} See, below, Appendix 2.
\textsuperscript{160} See, below, §4.
Mivḥarim II), which survives in at least 28 Hebrew manuscripts. De electionibus addresses the astrological doctrine of elections, which aims to find the most propitious moment for beginning a particular activity. In this doctrine, the horoscope is cast at a time that corresponds to a specific astral configuration that the astrologer considers to be propitious for beginning the undertaking in question.

3.5.1. The source text of De electionibus

As in the case of Sefer ha-Sheʾelot/De interrogationibus, we know of three other Latin translations of Mivḥarim II: one by Arnoul de Quincampoix and two that are anonymous. Hagin’s translation of Mivḥarim II, designated Le livre des elections Abraham, commissioned by Bate in 1273, survives in the same two manuscripts as Le livre des interrogations. Again, modern scholarship has paid scant attention to these five translations of Mivḥarim II. Did Pietro rely on Hagin? I again offer three examples to support an affirmative answer, with accompanying translations; the phrases where Pietro clearly drew on Hagin are underlined:

(I) I begin with a statement in the introduction to Mivḥarim II:

Mivḥarim II, §6:15, 148-149: ûad, yesh le hashem baʾel mevḥar shebokher: 
Shele haṭin halevone ye ʿevi yesh meuṣelah debeḥem ov toraṭe.

= In addition,

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161 See, below, Appendix 1, V, first and last sentences.

162 Abraham Ibn Ezra on Elections, Interrogations and Medical Astrology, pp. 528-529. This edition is used for all quotations from or references to the Hebrew text and English translation of Mivḥarim II, in the following format: Mivḥarim II, §7.1.7, 164-165 = second version of Sefer Mivḥarim, chapter 7, section 1, sentence 7, in Abraham Ibn Ezra on Elections, Interrogations and Medical Astrology, pp. 164-165.

163 This translation is entitled Liber de electionibus and is found in Ghent, Universiteitsbibliotheek, 5 (416), fols. 91v-96r.

164 One translation survives in two manuscripts: Erfurt 0.83, fols. 46v-52v and ÖNB, Cod. 5442, fols. 198v-203v. The other translation is extant in three manuscripts: Digby 212, fols 64va-67vb; London, British Library, Royal 12 C XVIII, fols. 26rb-30va; Oxford, Bodleian, Auct. F.5.29, fols. 105va-111va

165 F1, 109ra-113va; F2, fols. 102ra-110va.
in any election you make be careful that the Moon is not with a malefic planet in a degree attached to the “line of justice” (i.e., the equinoxes).

$F^1$, 110va (Hagin): Et tu dois garder en toute chose que tu eslivis que ne soit la lune avec estoile male aioustee en contre l’ecliptique.

$V^1$, 43va (Pietro): Et debes inspicere in omni electione quam facis ne sit Luna juncta planete in opposito ecliptice.

You need to be careful in any election to make sure that the Moon not be with a planet in opposition to the ecliptic.

Here Hagin deviates from Ibn Ezra in three main points, and Pietro follows suit in all three cases: (1) Hagin misunderstood Ibn Ezra’s קו הצדק, "line of justice," which denotes the equinoxes, and construed it as “l’ecliptique.” Pietro followed suit and wrote ecliptice. (2) Hagin simplified Ibn Ezra’s עם מעלה דבקה, “in a degree attached to” into aioustee. Pietro followed suit and translated iuncta. (3) Hagin misinterpreted Ibn Ezra’s כיון, “with respect to,” and construed it as en contre. Pietro followed suit and translated in opposito. Note that “in opposition the ecliptic” does not make any sense astrologically.

(II) A second example refers to the two ways in which the doctrine of elections may be implemented:

$Mivhār$ II, §2.1-2, 144-145:

הדרך האחת, והיא הנכונה,شتדת מולד האדם, ותדע יתדות מזלו ומקום הכוכבים הרעים והטובים. והנה, אם ידעת זה, השמר שלא יעלה המזל ששם כוכב רע בשעת המבחר.

= There are two ways for elections. The first way, which is the correct one, requires you to know the man’s time of birth, and the cardines of his sign, and the position of the malefic and benefic planets. When you know that, be

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166 In his $Sefer$ ha-$Ibbur$ (Book of Intercalation), a treatise on the Jewish calendar, Ibn Ezra writes: מוקס מעברת הגלגלים הגבוהים, هو הקו הצדק = “the point of the intersection of the two upper circles, which is called the ‘line of justice;’” see $Sefer$ Ha-$Ibbur$, A Treatise on the Calendar by Rabbi Abraham Ibn Ezra, trans. and annot. Mordechai S. Goodman (Jerusalem: Ktav, 2011), Hebrew section, p. 67. In this quote the “two upper circles” are the eighth and ninth orbs, and their intersections are the equinoxes. Ibn Ezra also offers a definition in the first version of $Sefer$ ha-$Olam$: התחלת = “the beginning of Aries, which is the ‘line of justice;’” see The Book of the World, A Parallel Hebrew-English Critical Edition of the Two Versions of the Text, ed., trans. and annot. Shlomo Sela (Leiden – Boston: Brill Academic Publishers, 2010) p. 92, §62:2.
careful lest the sign in which there was a malefic planet rises at the time of the election.

F¹, 109rb (Hagin): Les elections sont sur deus voies. La voie une c’est le plus vrai que tu saches la nativite de l’ome et saches le lie de son signe, et le lieu des estoiles males et bonnes. Et que se tu lesses garde toi que ne montre le signe que iluec estoile male ou lieu de le election.

V¹, 43rb (Pietro): Electiones sunt.2. modis. Unus est verior et est ut scias nativitatem hominis et scias locum signi ipsius et locum fortunarum et malorum. Quod si sciveris cave tibi ne ascendat signum in quo fuerit malus in loco electionis.

There are two ways for elections. The first way, which is the truer, is that you should know the man’s time of birth, and the position of his sign, and the position of the malefic and benefic planets. When you know that, be careful lest the sign in which there was a malefic planet rises at the position of the election.

We see, then, that Pietro follows Hagin, and that both deviate from the Hebrew original. In the first clause, Ibn Ezra refers to "the cardines of his sign," but Hagin and Pietro mention le lie de son signe or locum signi ipsius. At the end of the second clause, Ibn Ezra speaks of "the time of the election," but Hagin and Pietro refer to lieu de le election or in loco electionis."

(III) A third item of evidence occurs in the very last section of Mivḥarim II, about finding the time when some event will occur:

Mivḥarim II, §11.1.1, §11.2.3, 174-175: אם בקשת לסחור, שים בעל זה הבית לבית זה... אם אהבת זקן, שים שבתאי לבית הזה, ויסתכל ממבט טוב לבעל הצומחת.

F¹, 107vb (Hagin): Se tu viens mercheander met le seigneur de la. Xle. en la Xle. meson ... et se tu viens amor du viel home soit Satur en la Xle.

V¹, 45rb (Pietro): Si volueris mercari pone dominum.11e. in.11a. dome ... Quod si volueris diligere senem hominem, sit Saturnus in.11a.

If you wish to engage in trade, put the lord of the eleventh place in the eleventh place ... If you seek the amity of an elder, put Saturn in the eleventh <place>.
In the first clause, where Ibn Ezra leaves out the eleventh place, Hagin and Pietro make it explicit. So too in the second clause. There Hagin and Pietro also skip over ויסתכל ממבט טוב לבעל הצומחת “so that it [Saturn] forms a fortunate aspect with the lord of the ascendant.”

3.5.2. An extensive addition in De electionibus

In the middle of the third chapter, De electionibus interpolates a passage of approximately 155 words. The first sentence of the addition and the sentence that precedes it in De electionibus address the same topic: embarking on a voyage by sea when Saturn is the lord of hour is inadvisable. This addition occurs in the same place in all the available manuscripts and in the print edition of De electionibus. I call this an “addition” because it does not occur in the Hebrew original of the critical edition of Mivḥarim II or in any other Hebrew manuscript of Mivḥarim II that I have checked. Nor is it found in one of the two anonymous Latin translations of Mivḥarim II or in Arnoul de Quinampoix’s Latin translation of this work. However, it does occur in the other anonymous Latin translation of Mivḥarim II.

Where did Pietro find this passage? It turns out to be a verbatim Latin translation of a French addition found precisely in the same place, that is, in the middle of the third chapter, of Hagin’s Le livre des elections Abraham in the two extant manuscripts of this translation. This addition again demonstrates that Pietro used a manuscript of Hagin’s French translations of Ibn Ezra’s astrological writings. I have not been able to identify the Hebrew source text of the addition. A plausible explanation is that it reflects the text of a lost Hebrew manuscript of Ibn Ezra’s Mivḥarim II, which was used by Hagin as well as by one of the two

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167 The addition is inserted before the last six words in Mivḥarim II, 156-157. For this addition, see Smithuis, “Abraham ibn Ezra the Astrologer,” Appendix X.

168 See, e.g., V1, 44ra:38-44rb:2; Ve, LXVIIIvb-LXIXra.

169 See Digby 212, fols 66ra-66rb.

170 See F1, 112 rb:1-112va:1; F2, 105rb:31-105va:30.
anonymous Latin translators. To support these points, Appendix 3 presents the texts of the Latin and French additions in facing columns.  

3.6. *The Liber de Luminaribus*

Pietro’s *Liber de luminaribus* (henceforth, *De luminaribus*), extant in at least nine manuscripts and one print edition,\(^{172}\) is a complete Latin translation of Ibn Ezra’s *Me ʾorot*,\(^{173}\) which survives in at least 35 Hebrew manuscripts.\(^{174}\) *Me ʾorot* expounds the astrological theory behind the doctrine of the critical days, when marked changes in the symptoms of a disease take place and it tends to reach a climax, good or bad. *Me ʾorot* starts with a cosmological preface on the source of the light of the Sun and Moon,\(^{175}\) followed by a defense of the astrological theory behind the critical days.\(^{176}\) Then *Me ʾorot* is divided into four parts.\(^{177}\)

Differentia 23 of Pietro’s *Conciliator* is entitled “Utrum duo individua sive plura possint eandem complexionem habere, necne” = “Whether two individuals or more can have the same complexion, or not,” a topic that is addressed in *Me ʾorot*, in the defense of the astrological theory behind the critical days. This leads Pietro to paraphrase a relevant passage from *De luminaribus*,\(^{178}\) acknowledging his reliance on Ibn Ezra but without stating his source.\(^{179}\)

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\(^{171}\) See, below, Appendix 3.

\(^{172}\) See, below, §4.

\(^{173}\) See, below, Appendix 1, VI, first and last sentences.

\(^{174}\) *Abraham Ibn Ezra on Elections, Interrogations and Medical Astrology*, 532-533. This edition is used for all quotations from or references to the Hebrew text and English translation of *Me ʾorot*, in the following format: *Me ʾorot*, §9:1, 460-461 = *Sefer ha-Me ʾorot*, section 9, sentence 1, in *Abraham Ibn Ezra on Elections, Interrogations and Medical Astrology*, pp. 460-461.

\(^{175}\) *Me ʾorot*, §1:1-11, 452-455 through §3:1-2, 454-455.

\(^{176}\) *Me ʾorot*, §3:3-7, 454-457 through §9:1-9, 460-461.

\(^{177}\) For their content, see *Abraham Ibn Ezra on Elections, Interrogations and Medical Astrology*, pp. 29-31.


\(^{179}\) See Pietro d’Abano, *Conciliator*, Diff. XXIII, sig. 36ra: “Ad huc Habraam Evenare astrologus que in latinum ordinavi. Non est possibile ut complexio unius non
3.6.1. The source text of De luminaribus

Besides De luminaribus, we know of three Latin translations of Meʾorot. One, De luminaribus seu de diebus cretics, was produced by Bate in Orvieto in 1292.\(^{180}\) Another, the Liber Abraham de terminatione morborum, is attributed to Pierre de Limoges.\(^{181}\) A third, the anonymous Liber Luminarium Aben Esra Israelite, is extant in one manuscript.\(^{182}\) So far no French translation of Meʾorot has been found, but the existence of so many Latin translations raises the question whether they may derive from a common source text. To check this, I present next two passages from Meʾorot and their counterparts in the Latin translations by Pietro, Bate, and Pierre. Relevant differences and similarities between them are underlined:

(I) The first example consists of two sentences about the fixed stars.

Meʾorot, §33:3,5, 478-481:

ודע כי הכוכביםشكل גליל השמיני הם = Know that the stars of the eighth orb are <very> high … such as the Eye of the Bull, the Heart of the Lion, and the Heart of the Scorpion.

Z, 81rb (Pietro): Et sciendum stellas signorum esse altas valde … sicut corde scorpionis, corde leonis et corde piscium.

Le, 34ra (Bate): Sciendum autem quod stelle signorum altissime sunt … ut de corde leonis et de corde scorpionis et de corde piscibus.

L, 79r (Pierre): Et scito quod stelle signorum sunt alte valde alte … notandum est cor scorpionis et cor leonis et cor piscium.

Know that the stars of the signs are very high … such as the Heart of the Scorpion, the Heart of the Lion, and the Heart of Pisces.

We see that the three Latin versions deviate from the Hebrew original in the same loci. In the first sentence, the Hebrew refers to the “stars of

\[\textit{sit a complexione alterius alia diminutione vel augmento. Non enim possunt particulariter duo homines inveniri equales in suis complexionibus operationibus et cogitationibus.}\]


\(^{182}\) Oxford, Bodleian, Canon Misc. 109, fols. 144r-16=59r.
the eighth orb” but the three Latin versions have the “stars of the signs.” In the second sentence: the Hebrew refers to the “Eye of the Bull” but the three Latin versions have the “Heart of Pisces.”

(II) The second example relates to the extent to which planetary configurations aggravate or alleviate diseases:

Me’orot, §31:1-4, §32:1, 476-479: ואמ...

If the Moon is in conjunction with Saturn, Jupiter, and Venus, it is slightly beneficent … If it is in trine, it will save <the patient>; if in sextile, it will decrease the misfortune but will not save <him>. All of Sun’s aspects with the Moon are fortunate, but if it [the Sun] is in opposition in Aquarius or Libra, the good fortune will be diminished, and a conjunction <of the Sun and the Moon> is the worst of all the conjunctions. If the Moon is with Saturn and Mars, this is less than half of an inauspicious sign.

Z, 81ra-81rb (Pietro): Si vero luna fuerit... non tamen salvabitur omnino … quod si fuerit in asceptu trino liberabitur ex suo malo sed non salvabitur omnino et in sexto aspectu minorabitur ex suo malo sed non salvabitur omnino. [desunt] Quod si Luna fuerit cum Saturno et Marte hoc minus est dimidio signo malo.

Le, 33vb (Bate): Si autem luna fuerit in oppositione Saturni et Iovis valebit quidem sed nihilomius non evadet … Si in trino sit aspectu evadet eger si vero in.6o. de malo quidem minuetur sed ille non evadet. [desunt] Si autem Luna cum Saturno et Marte hoc minus est dimidio signo malo.

L, 78v-79r (Pierre): Et si Luna est in aspectu oppositio Saturni et Iovis istud valebit et tunc infirmus non evadet … Et si ipsi fuerit in aspectu trini infirmus protegetur et in aspectu sextilis deficit de malo tunc infirmus non protegetur. [desunt] Et si luna est inucta cum Saturno et Marte hoc est minus quam dimidius signum mali.

If the Moon is in opposition to Saturn, Jupiter, and Venus, he will not be saved at all … If it is in trine, it will save <the patient>; if in sextile, it will decrease the misfortune but will not save <him>. [A full sentence is omitted.] If the Moon is with Saturn and Mars, this is less than half of an inauspicious sign.
Here the Latin versions leave out a sentence that occurs in the Hebrew original. In addition, at the beginning of the passage, whereas the Hebrew refers to a Saturn-Jupiter conjunction, the three Latin versions refer to their opposition.

Once again, Pietro, Bate, and Pierre were following the same source text. Because one of the Latin translations is by Bate, who commissioned Hagin to produce French translations of Ibn Ezra’s astrological writings, it is possible that a lost French translation of Me’orot by Hagin is the common source text of the three Latin translations.

3.6.2. Literal translations

_De luminaribus_ does not incorporate transliterations from Arabic; nor does it offer innovations or improvements over the Hebrew original. On the contrary, _De luminaribus_ sometimes takes a backward step and offers crude literal translations of terms that are correctly translated by Pietro in his other Latin translations. On the one hand, _De luminaribus_ employs calques of Ibn Ezra’s idiosyncratic neologisms like _honor_ for כבוד, to denote both the exaltation of a planet—or the magnitude of a fixed star; or _centrum_ for מוצק. By contrast, _De luminaribus_ follows its source text so slavishly that sometimes offers literal renderings of Hebrew expressions, which prove to be meaningless or erroneous. One example is כוכב חמה, literally the “Sun’s star,” the standard Hebrew name for Mercury. Whereas it is frequently and correctly rendered in Pietro’s other translations, in _De luminaribus_ כוכב חמה is sometimes represented by _stella Solis_. Another example is Ibn Ezra’s use of מ쳐ים “servants,” to denote “planets.” This term is found throughout

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183 For _honor_ with the sense of “exaltation,” see Ve, LXXIIvb, LXXIVva et passim; _cf._ Me’orot, §10:1, 462-463; §27:7, 472-473.

184 For _honor_ with the sense of the “the magnitude of fixed star,” see Ve, LXXVrb; _cf._ Me’orot, §33:1, 462-463; §27:7, 478-479.

185 For _centrum_ as a translation of מוצק, see Ve, LXXIIra; _cf._ Me’orot, §4:1, 456-457; et passim.

186 For _stella Solis_ as a translation of כוכב חמה, see Ve, LXXIIva; _cf._ Me’orot, §8:1, 460-461; Ve, LXXIVva; _cf._ Me’orot, §29:1, 474-475.
Ibn Ezra’s astrological writings and elsewhere Pietro translates it correctly. In *De luminaribus*, though, we find מטסי כוכבים המשרתים, literally “the aspects of the servant stars” but denoting “the planets’ aspects,” rendered *aspectus stellarum servientium*, thereby translating המשרתים as “servants” rather than as planets.

3.7. *The Tractatus Particulares*

The *Tractatus particulares*, a four-part work assigned to Ibn Ezra, is extant in two Latin translations. One was carried out by Pietro and was transmitted in 17 manuscripts plus one print edition, most of which contain all seven of Pietro’s translations of astrological treatises by Ibn Ezra. The second translation, by Arnoul de Quincampoix, is preserved in a single manuscript, which also contains translations of *Sheʾelot II* and *Mivḥarim II*, as well as a prologue in which Arnoul informs that he intends to use a French source text for his translations of Ibn Ezra’s astrological writings. This is consistent with the fact that one of the manuscripts of Pietro’s *Tractatus particulares* also informs that this translation was carried out from French.

But the *Tractatus particulares* is a case apart, because none of its four parts is a translation of a surviving work by Ibn Ezra. It has recently been the subject of a separate study of its sources and general features, and I limit myself here to briefly display the main findings. A close scrutiny of the contents, organization, and method of composition of the *Tractatus particulares* evinces that it was created from the outset as a comprehensive multipart astrological work, a sort of medieval astro-

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188 See, below, §4.
189 See Ghent, Universiteitsbibliotheek 5 (416), fols. 96v-103r
190 See Ghent, Universiteitsbibliotheek 5 (416), fols. 84v-85r.
191 See, below, Appendix 1, VII, Explicit.
logical encyclopedia, whose like may be found in medieval Hebrew literature.

Some parts of the *Tractatus particulares* are alternative Latin translations or reworkings of sections of several works by Ibn Ezra: (1) sections of the last chapter of *She’elot* III, whose Hebrew original is lost but which survives in an anonymous Latin translation, the *Liber interrogationum*, which is extant in two manuscripts;¹⁹³ (2) a reworking of the account of the seven planets in *Mishpeṭei ha-Mazzalot*, “Judgments of the zodiacal signs,” a Hebrew introduction to astrology by Ibn Ezra that is extant in at least 25 Hebrew manuscripts.¹⁹⁴ But most of the *Tractatus particulares* consists of Latin translations of Hebrew translations or reworkings of Arabic works, whose counterpart may be found in medieval Latin astrological literature. These Hebrew translations were carried out after Ibn Ezra’s death, but were associated with him because they employ Ibn Ezra’s peculiar terminology.

The *Tractatus particulares* includes Latin translations of the following Hebrew works, not by Ibn Ezra: (1) sections of *Kelal ha-she’elot le-divrei Talmai*, “All the questions according to Ptolemy,” a close replica of the second part of Ptolemy’s and Aristotle’s *Iudicia*, a pseudo-Ptolemaic Latin work on interrogations;¹⁹⁵ (2) sections of *Sefer ha-she’elot le-Māshāʾallāh*, “Book of interrogations by Māshāʾallāh,” a popular Hebrew translation of the Arabic *Book of interrogations* by Māshāʾallāh;¹⁹⁶ (3) sections of the lost Hebrew source text of parts of

¹⁹³ See Ve, LXXXVva, line 21 through LXXXVvb, line 23; cf. *Liber Interrogationum*, Amplon O.89, fol. 29r, lines 13-27; Ve, LXXXViva, lines 2-21; cf. *Liber Interrogationum*, Amplon. O.89, fol. 29r, line 26-fol. 29v, line 2; Ve, LXXXViva, lines 22-44; *cf. Liber Interrogationum*, Amplon. O.89, fol. 29v, lines 2-17; Ve, LXXXVIIra, line 18 through sig. LXXXVIIva, line 8; *cf. Liber Interrogationum*, Amplon. O.89, fol. 29v, 17 through fol. 30r, 25.

¹⁹⁴ Ve, LXXXVIIva, line 29-LXXXVIIra, line 1; *cf. Mishpeṭei ha-Mazzalot*, §38:6-15, 520-52; §51:2, 538-538.

¹⁹⁵ Ve, LXXXVrb, line 14 through sig. LXXXVva, line 21; *cf. She’elot le-Talmai*, Oxford, Opp. 707, fol. 133r, lines 3-8 through fol. 133v, lines 2-6.

¹⁹⁶ Ve, LXXXVvb, line 23 through LXXXVIIra, line 9; *cf. She’elot le-Māshāʾallāh*, Oxford, Bodleian, Opp. Add. Qu. 160, fols. 154r line 17-154v line 23; Ve, LXXXViva, line 44-LXXXVIIra, line 14; *cf. She’elot le-Māshāʾallāh*, Oxford, Bodleian, Opp. Add. Qu. 160, fols. 154v, line 12-155r, line 8; 156v, lines 8-25.
the so-called *Alchandreana*, an astrological corpus translated and adapted from Arabic in the tenth century, but including Hebrew and Latin sources as well;\(^{197}\) (4) sections of the lost Hebrew source text of *De significacione septem planetarum in domibus*, credited to an unidentified author variously called Gergis, Iergis, or Girgith;\(^{198}\) (5) the almost complete Hebrew text, now lost, of a work by Māshāʾallāh on reading thoughts, variously designated as *De interpretatione cogitationis*, *De intentione*, or *De cogitationibus ab intentione*.\(^{199}\)

4. **Transmission of Pietro’s Translations**

All seven of Pietro’s translations were printed together at the beginning of the modern era, which explains why they are the best known of all the translational projects of Ibn Ezra’s astrological writings. But the print edition of Pietro’s translations dates from 1507, more than two centuries after Pietro produced them in 1293. How were Pietro’s translations transmitted in the interim? The best way to answer this question is to examine the manuscript tradition of Pietro’s translations.

This task was begun by modern scholars, as shown above. Here I broaden the scope by taking into account all the manuscripts and the print editions known to me, including a considerable number of hitherto unknown manuscripts, some of them copied soon after Pietro.\(^{200}\) The first column of the following table lists all the relevant witnesses, from earliest to latest. The next seven columns provide information about each translation. *TP* stands for *Tractatus particularis*. If a copy of any of these translations exists in the manuscript or print edition described in the first column, the corresponding folios/pages are indicated in the column allocated to the relevant translation; otherwise the cell is left blank.

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\(^{198}\) *Ve*, sig. LXXXIXvb, lines 4-28; cf. Paris, BnF, lat. 16204, pp. 428b-432b.

\(^{199}\) *Ve*, XClrb, line 32-XClvb, line 19; cf. BnF, lat. 16204, pp. 422b-424a.

\(^{200}\) I am very grateful to David Juste for providing me a list of some of the hitherto unknown manuscripts of Pietro’s Latin translations and access to some of them.
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<th>Moladot</th>
<th>Sheʾelot II</th>
<th>Mivḥarim II</th>
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<td>Manuscripts and print editions</td>
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<td>Vienna, ÖNB, Cod. 3124, 15th c. inf.</td>
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**Reshit Ḥokhmah**
- Oxford, BL, Canon. 190, 15th c.
- Misc. 190, 15th c.
- Paris, BrF, lat. 7336, 15th c.
- Paris, BrF, lat. 7438, 15th c.
- Paris, BrF, lat. 10269, 15th c.
- Vienna, ÖNB, Cod. 5309, 15th c.
- Zurich, ZB, B.244 (769), 15th c.
- Basel, UB, F.I.10, 15th c.
- Vienna, ÖNB, Cod. 3124, 15th c.
- Milan, B.A. D.331, 15th c.
- Limoges, BM, 9 (28), 15th c.

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- Oxford, BL, Canon. 190, 15th c.
- Misc. 190, 15th c.
- Paris, BrF, lat. 7336, 15th c.
- Paris, BrF, lat. 7438, 15th c.
- Paris, BrF, lat. 10269, 15th c.
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**Moledot II**
- Oxford, BL, Canon. 190, 15th c.
- Misc. 190, 15th c.
- Paris, BrF, lat. 7336, 15th c.
- Paris, BrF, lat. 7438, 15th c.
- Paris, BrF, lat. 10269, 15th c.
- Vienna, ÖNB, Cod. 5309, 15th c.
- Zurich, ZB, B.244 (769), 15th c.
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- Limoges, BM, 9 (28), 15th c.

**Me’oret II**
- Oxford, BL, Canon. 190, 15th c.
- Misc. 190, 15th c.
- Paris, BrF, lat. 7336, 15th c.
- Paris, BrF, lat. 7438, 15th c.
- Paris, BrF, lat. 10269, 15th c.
- Vienna, ÖNB, Cod. 5309, 15th c.
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<td>193rb-194rb</td>
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<td>Klagenfurt, ADG-BM, XXIX e 12, 15th c.</td>
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<td>LXXIva-LXXvb</td>
<td>LXXX-Vrb-XClvb</td>
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We learn the following from this table:

(i) Pietro’s translations were transmitted in a relatively large number of witnesses: 27 manuscripts and one print edition. This is more than the number of witnesses in which the other translation projects of Ibn Ezra’s astrological writings were transmitted. 201

(ii) The manuscripts range between extremes. On the one hand, 13 manuscripts include only one translation; on the other, nine of them contain all seven. Between these two extremes, two manuscripts contain five translations, two manuscripts contain two translations, one includes four translations, and another includes three translations.

(iii) The most popular of Pietro’s translations was *Principium sapientiae*, found in 18 of the 27 manuscripts. It is followed by the *Tractatus particulares*, in 17; *De nativitatibus*, in 16; *De interrogationibus*, in 13; *De rationibus*, in 11s; and finally *De electionibus* and *De luminaribus*, in 10 of the 27 manuscripts.

(iv) The earliest surviving manuscripts of Pietro’s translations date from the fourteenth century; none of them is later than the sixteenth century. Only six manuscripts were copied in the fourteenth century, and most of them contain only one of the seven translated works. The golden age in the transmission of Pietro’s translations was the fifteenth century, when 19 of the 27 surviving manuscripts were copied, with most containing all seven translations. Only two manuscripts date from the sixteenth century. The print edition was published in 1507, and is one of the last, if not the last, witness of Pietro’s translations.

5. CONCLUSION

This study has demonstrated that during his stay in Paris (1293-1307), Pietro d’Albano employed all four of the Hebrew to French translations produced by Hagin le Juif in 1273 for his own Latin translations (*Principium sapientiae, De nativitatibus, De interrogationibus, and De electionibus*). By contrast, Bate, who commissioned Hagin’s translations, used only one of them for his own translation of *Reshit Hokhmah (Initium sapientiae)* in 1292, almost simultaneously with Pietro’s translation of *De mundo vel seculo*. Bate’s Latin translation of *ʿOlam I*, which is extant in 34 manuscripts and one print edition; see Steel et al., *The Astrological Biography of a Medieval Philosopher*, p. 51.

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201 The only exception to this rule is *De mundo vel seculo*. Bate’s Latin translation of *ʿOlam I*, which is extant in 34 manuscripts and one print edition; see Steel et al., *The Astrological Biography of a Medieval Philosopher*, p. 51.
of the same treatise. In other words: two decades elapsed before Latin scholars began using Hagin’s translations.

No link has been yet found between Pietro and Hagin, or between Pietro and Bate. Moreover, the fact that their translations of Reshit Hokhmah were produced almost simultaneously (1292 and 1293) and in different places (Paris and Orvieto) strongly suggests that the two men worked independently of each other. Evidently Ibn Ezra’s popularity grew to such a degree between 1273 and 1293 that two Latin scholars were moved to use Hagin’s French, of which several copies were then circulating in the Paris area, for their own Latin translations.

As for Pietro’s other three translations, one of them (Tractatus particulares) also had a French source text; the other two (De rationibus and De luminaribus) were based on the same source text as other Latin translations of those works. Because one of them (De luminaribus) has a counterpart among Bate’s Latin translations (De luminaribus seu de diebus creticis), it cannot be ruled out that the common source text was a lost French translation by Hagin le Juif.

According to the explicit of Principium sapientie, these French translations were “defective in many ways, corrupt, and sometimes poorly arranged and failing to make sense.” Hence Pietro took upon himself the task of offering a clearer and more faithful Latin version of Ibn Ezra’s astrological writings. Did he succeed? We have examined above Pietro’s modus operandi in each of these translations and have seen that his success in this regard was limited.

On the one hand, he slavishly followed Hagin’s renderings of Ibn Ezra’s peculiar neologisms and Hebraisms; in some cases Pietro’s translations of Hebraisms prove to be meaningless and erroneous renderings of Ibn Ezra’s sense. On the other, sometimes he did improve on what he found in his source texts. He used the new Latin astrological literature in vogue in the Latin West after the twelfth century, as a result of the widespread Latin translations of Arabic astrological texts. This is particularly noteworthy for his translations of terms related to astronomy.

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Note, however, that whereas Pietro resided continuously in Paris during the years 1293-1307, Bate lived in Mechelen (Flanders); he was in Orvieto in early 1292 to help his patron Guy of Avesnes defend his interests at the papal court.
and astrology, for the translation of the names of stars and constellations, and for the interpolation of Arabic transliterations. Especially eye-catching is Pietro’s use of John of Seville’s Latin translation of Abū Maʿshar’s *Great Introduction*.

If one compares how Pietro dealt with translations by other authors, especially translations of medical works from Greek, it emerges that Pietro displays a propensity to revise and criticize earlier translations. As shown by Marie-Therese d’Alverny, there are similarities in the way Pietro criticizes his predecessor in the explicit of his translation of Galen’s *De sectis* (MS Cesena, Malatestiana, Sin v. 4, fol. 48r): “explicit liber heresum G. secundum translationem Burgundionis, que cum ceteris imperfectam Petrus integravit Padubanensis” = “Here ends the Book of Sects of G. according to the translation of Burgundio, which Pietro d’Abano completed, when he found it to be imperfect together with other <texts>.”

Pietro’s translational project comprised seven separate translations, each on a different branch of astrology. Nevertheless, we have seen that Pietro conceived of them as an organized and self-contained corpus, as corroborated by two main proofs. (i) In his own works, even when he quotes or paraphrases from some particular translation, Pietro is in the habit of presenting himself as the translator into Latin of Abraham Ibn Ezra’s books, in the plural, and he always uses the verb *ordinare*, “to set in order,” rarely used in classical or medieval Latin to denote the act of translation. (ii) The incipit of *Principium sapientie*, Pietro’s first translation, does not mention this title but claims that this translation begins the *Complete Book on the Art of the Judgements of the Stars*,” which was designed to be composed of five, six, or more components, with the first of them an *Introduction to Astrology*. The explicit of *Principium sapientie* completes the picture and says that the other components will be a treatise on the rationale behind astrological terms, a treatise on the doctrine of nativities, and “other books.”

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This explains why Ibn Ezra held such a strong appeal for Pietro, in particular, and for Latin translators and scholars, in general. They were looking for a comprehensive picture of astrology, one that shed lights on all the branches of astrology. Ibn Ezra’s corpus of astrological writings, which addressed all the systems of Greco-Arabic astrology, fit the bill.

Appendix 1

Incipits and Explicit, First and Last Sentences

This appendix presents the incipits and explicits, and the first and last sentences of Pietro’s seven Latin translations of Ibn Ezra’s astrological writings (except for that of Principium Sapientie), according to the earliest available manuscripts. The incipits and explicits are accompanied by an English translation. The first and last sentences are preceded by their Hebrew counterparts, accompanied by an English translation of the Hebrew.

I. Principium Sapientie

First sentence: Reshit Ḥokhmah, §1.1:1, 48-49; P1, 76rb-76va: ראשית חכמה יראת השם, כי היא המוסד, כי כאשר לא יתור האדם אחר עיניו ולבו למלאת תאותו אז תנוח החכמה בקרבו. = The beginning of wisdom is the fear of the Lord, for it is the foundation, because when man ceases to follow his eyes and heart to satisfy his desire, then wisdom comes to rest inside him.

P1, 76rb-76va: Cum initium sapientie timor Dei existat, hoc utique virtus et sapere deprehenditur quando homo non suorum oculorum ductu cordisque impetu sua illicita adimpleat desideria sed magis seipso retrahens compellitur.

Last sentence: Reshit Ḥokhmah, §10.3:7, 270-271: ונהוג המר明らか הפך 1:720-271: המר, כאשר הזכיר בטלמיוס בספר הפרי. והנה נשלם העשרה שערים, ושבח ליוצר כל היצורים. = The direction of the lots is the opposite of the
of the signs, as mentioned by Ptolemy in the *Book of the Fruit*. The ten chapters are completed. Praise to the Creator of all the creatures (Latin: Praise to the Lord, who increased science).

P¹, 95rb: Directio vero partium est in oppositum signorum, ut dixit in Libro Fructuum Ptholomeus. Completa sunt nunc huius.10. libri capitula, et ideo illi Domino sit laus qui scientiam ampliavit.

**II. Liber de rationibus**

Incipit: O¹, 56rb: Incipit *Liber de Rationibus* Abraham Avanare quem transtulit Petrus Paduanus. = Here begins the *Book of Reasons* by Abraham Ibn Ezra, which was translated by Peter of Padua.

First explicit: O¹, 62va: Hic completus est *Liber Rationum*. = Here is completed the *Book of Reasons*.

Second explicit: O¹, 634a: Explicit translatio *Libri de Rationibus* per Petrum Paduanus. = This is the end of the translation by Peter of Padua of the *Book of Reasons*.

First sentence: *Ṭeʿamim* II, §1:1, 182-183: = Behold now, I wish to lay the foundation of the *Book of the Beginning of Wisdom*.

V¹, 20vb: Volo enim nunc ponere fundamentum Libro de Principio Sapientie.

Last sentence: *Ṭeʿamim* II, §8.7:11, 254-257: = The Ancients among the Indian scientists also said that none of them has any power, except when they are at the beginning of one of the cardines, or <in the place of> the Sun by day or <of> the Moon by night.

V¹, 28ra: Adhuc autem consenserunt antiqui nullam harum habere fortitudinem nisi fuerit in aliquo angulo cum Sole in die et cum Luna de nocte.

**III. Liber de nativitatibus et revolutionibus earum**

Incipit: P⁴, 54ra: Incipit *Liber Abrahe Avenare de Nativitatibus et Revolutionibus* cuius principium est in octo regulis quibus verificatur
iudicium in nativitatibus. = Here begins the Book of Nativities and their 
Revolutions by Abraham Ibn Ezra, whose preface brings eight rules 
which verify the judgements of nativities.

Explicit: P^4, 54ra: Explicit Liber de Nativitatibus et Revolutionibus 
Earum quem Petrus Paduanus ordinavit in latinum ex hebraico in yde-
oma gallicum translatus = This ends the Book of Nativities and their 
Revolutions, which Peter of Padua translated into Latin after it was 
rendered from Hebrew into French.

First sentence: Moladot, I 1:1, 84-85: 
אמר אברהם הספרדי: כל משכיל 
בחכמת משפטי המזלות ואיננו יודע מההכמה העליונה 
יש עתים שיהיו 
דיניו כזבים. = Abraham the Spaniard said: Anyone who is versed in 
the science of the judgments of the zodiacal signs but is not acquainted 
with the supernal science will sometimes make erroneous <astrological> 
judgments.

P^1, 97vb (Pietro): Inquit magister Abraham: sapiens et astutus quod 
omnis sapiens qui se inmisct scientie iudiciorum signorum et sapientia 
caret omnino superiori, contingit interdum eius falsificari iudicia.

Last sentence: Moladot, IV 29:3, 202-203: 
ויש לך לערב תולדת שניהם 
cכפי מקומם מהשמש ובמזל שהם וביתדות. = You should associate 
the natures of both according to their position with respect to the Sun and 
the sign in which they are located in the cardines.

P^1, 106vb (Pietro): Et debes miscere naturam illorum.2. secundum 
locum Solis et signum illorum.2. et angulorum.

IV. Liber de interrogationibus

Incipit: Ba, 125va: Incipit Liber de Interrogationibus Abrahe Ave-
narre quem Petrus Paduanus redegit in latinum. = Here begins the Book 
of Interrogations by Abraham Ibn Ezra, which Peter of Padua translated 
into Latin.

Explicit: Ba, 130va: Explicit Liber de Interrogationibus Abrahe Ave-
narre Iudei quem Petrus Paduanus redegit in latinum. = This is the end 
of the Book of Interrogations by Abraham Ibn Ezra the Jew, which Peter 
of Padua translated into Latin.

First sentence: She’elot II, §1:1, 348-349: 
ראשים חכמי המזלות יהיו: 
שפיעי, האחד תלמי והשני דודו

been two leading astrologers: one of them Ptolemy and the other Doro-
theus; both of them were kings.

V1, 39rb (Pietro): Astrologie duo extiterunt capita, unum quidem
Ptholemeus, alterum Doronius, et ambo fuerunt reges.

Last sentence: She’elot II, §12.8:12, 396-397: 
Many also take into consideration the number of days of each planet, which is always equal to the number of its least years.

V1, 43ra (Pietro): Plures itidem inspexerunt numerum dierum cuius-
libet planete qui omnes sunt, sicut est numerus annorum minimorum
ipsorum.

V. Liber de electionibus

Incipit: P4, 82va: Incipit Liber Abrahe Avenesre Judei de Electionibus
cuius capitulum primus est universale in doctrina electionum et est pro-
hemiale. = Here begins the Book of Elections by Abraham Ibn Ezra the Jew, of which the first chapter is on the general doctrine of elections and is introductory.

Explicit: P4, 87vb: Explicit Libri Abrahe Avenesre Hebrew de
Electionibus per Petrum Paduanum in latinum translatus. = This is the end of the Book of Elections by Abraham Ibn Ezra the Jew, which was translated by Peter of Padua into Latin.

First sentence: Mivharim II, §1:1, 142-143: The sages of the Torah agree that man has the capacity to do both good and evil. Moses, our lord, said plainly: “choose life”; were it not for this <capacity> no one would be punished.

Last sentence: V1, 43rb (Pietro): Sapientes legis consenserunt hom-
inum perfecte habere potestatem in faciendo bonum et malum, et Moy-
ses magister noster dixit plane hoc quidem est scire, et super istud est
via quod si hoc non fuisse non esset damnatus homo.

Mivharim II, §12.1:5, 176-177: If <you want> to buy a camel, determine the position of Venus; and if to buy an elephant, determine the position of Jupiter. This is what the Ancients said.
V1, 45va (Pietro): In emendo vero camelum apta locum Veneris aut Iovis, ita enim dixerunt antiqui.

VI. Liber de Luminaribus


First sentence: Meʾorot, §1:1, 452-453: מפיל אני תחנתי לפני אלהי אבי כל עוד נשמתי בי, לשלוח אורו ואמתו אל לבבי. = I present my supplication to the God of my father, as long as my breath is in me, that He sends forth His light and His truth to my heart.

Last sentence: Meʾorot, §35:6, 482-483: וכנ תעשה שנה בשנה. = Proceed likewise every year.

V1, 49ra (Pietro): Et ita debes facere de anno in anno.

VII. Tractatus Particulares

Incipit: Ba, 121ra: Incipit Tractatus Particularis de cogitatione hominis ac eius questione. = Here begins the particular tractate on a man’s thoughts and his question.

Explicit: Ba, 125va: Finis quorumdam Tractatuum Particularium Abrahe Avenare quos Petrus Paduanus transtulit de Gallico in latinum. = This is the end of certain Particular Tractates by Abraham Ibn Ezra, which Peter of Padua translated from French into Latin.
**APPENDIX 2**

An extensive addition in the middle of chapter VI of Pietro’s *De interrogationibus*, and its counterparts in Hagin’s *Le livre des interrogations* and in Ibn Ezra’s *Liber Interrogationum* (*She’elot* III)

<table>
<thead>
<tr>
<th>Pietro’s <em>De interrogationibus</em></th>
<th>Hagin’s <em>Le livre des interrogations</em></th>
<th>Ibn Ezra’s <em>Liber Interrogationum</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>V¹, 40vb:27-41ra:6</td>
<td>F¹, 125ra-125va</td>
<td>Erfurt, MS Amplon. O.89, fol. 25v</td>
</tr>
<tr>
<td>Ve, LXIIrb-LXIIIva</td>
<td>F², 123va-123vb</td>
<td>Vienna, ÖN, Cod. 5442, fol. 183rb-183va</td>
</tr>
<tr>
<td>Et si plures.4or. fuerint infortunati in domo.6a. vel.12a. aut.8a. aut domini eorum domus, morietur eger. Et idem malus eorum aspectus cum significacione est per se malum signum.</td>
<td>Et s’ele plus de.4. sont domachie en la meson.6e. ou.12e. ou.8e. ou se les seigneurs de leur mesons morira le malade. Jerres leur regart mal au demoutrant per li en signe male.</td>
<td>Et Mesehala dicit: item associa cum illis.3. significatoribus dominum hore, et non iudicis quod morietur nisi postquam coniungetur illi.4. vel.3. vel.2., si fuerint multum fortes.</td>
</tr>
<tr>
<td>Pietro’s <em>De interrogationibus</em></td>
<td>Hagin’s <em>Le livre des interrogations</em></td>
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<td>F2, 123va-123vb</td>
<td>Vienna, ÖN, Cod. 5442, fol. 183rb-183va</td>
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</tbody>
</table>

<p>| Et similiter si dominus,8e. et 6e. die mortis, quando fuerit dominus ascendentis in uno angulorum aut in fine. | Et aussi le seigneur de la 8e. et la 6e. le jour de la mort quant est il sires de l’ascendant en 1. des angles ou en la fin. | Et iudicabis quod morietur homo si fuerit dominus ascendentis in 6a. vel 8a. vel in 12e., vel quod damnificet se vel in aspiciendo vel in coniungendo se cum aliquo dominorum ipsarum 3m. domorum. |
| Et si dominus,8e., aut quando coniungitur aut quando attingit ad locum significatoris,8e. et fuerit significator istius dominus ascendentis et non illic aspiciat prompte ad eius aspectum signum secundum. | Et se le seigneur se la 8e. ou quant il sa iouste ou quant il atenit au lieu du seigneur de la 8e. meson, et si sera le demonstrant 1. li sires de l’ascendant et non iluec regard ameine a sou regart le signe second. | Et dominus,8e. domus, si in ascendentque fuerit, significat malum, sive fuerit stella bona sive mala. |
| Et respice si fueris princeps denuere aut in 4a. morietur. Et si princeps vite fuerit in 4a. in bono loco sanabitur. Quod si illic fortune et mali fuerit iudicia per fortiore. | Et garde se il est princes de la premiere ou en la 4e. morra. Et se le prince de la vie en la 4e. en bon lieu garrira. Et si se sont iluec bones et males iuge selon le plus fort. Et se il est cheus au lit morra se la lune est en lieu mal. Et en signe estant alongera la maladie et en tournant sera garis en haste et en signe de 2e. cors sera garis en termine moyen et istra de maladie a maladie autre selone le regart de la lune as planetes. | Et scias quod infirmitas prolongabitur si fuerit significator tardus in suo cursu et similiter si dominus ascendentis vel prepositus scilicet fuerint tardi vel quod fuerint retrogradi. Et signa veridica sunt multum dura, et signa bicorpora ostendunt quod revertetur infirmitas vel renovabitur super ipsum infirmitas alia, et mobilia signa significant super festinationem ad vitam vel ad mortem. |
| Et si prostraverit se in locum mortier si luna fuerit in loco malo. Et in signo fixo elongabitur morbus sed in mobili sanabitur cito et in signo communi sanabitur tempore medio et egredietur de morbo in morbum alium secundum aspectum lune cum planetis. | | |</p>
<table>
<thead>
<tr>
<th>Pietro’s <em>De interrogationibus</em></th>
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</tbody>
</table>

Si domus ascendens aut significator de-derit vim domino.6. vel.8e. aut coniungat-ur planete in domo.4a. morietur infirmus quoniam hec est domus fovee. Et si sig-nificator fuerit in.10. et augetur lumen eius alleviatur morbus quoniam est velox. Si luna fuerit significator sitque in signo.6o. febris ipsius levis erit. Quod si fuerit plan-et melancolie ventum habet in ventre ex colera rubea propter humiditatem acciden-tium aut inflatione.

Se le seigneur ou le demonstane done force ou conionit a estoile en meson.4e. morra li malades car ce est la meson de la fosse et se le demonstane en la.10e. et sa clarte atroist alegera la maladie car ele est hastive. Se la lune demonstane et ele est ou signe.6e. lieve fievre ali et se c’est estoile de la melamcolie il a vent en ventre de cole ruge per la moisteur des aventures ou l’enfleure. Explicit deu gratias.

Et ita iudicaverunt Antiqui, et ego Abra-ham temptavi multotiens quod si fuerit dominus ascendens dans fortitudinem aut coniungatur cum stella in.4a., morietur in-firmus quia ipsa est domus fovee. Et si significator in.4a. et sit accrescens Lune, alleviabitur a malo quia festina est ipsa.
### APPENDIX 3

An extensive addition in the middle of chapter III of Pietro’s *De electionibus* and its counterpart in Hagin’s *Le livre des elections Abraham*

<table>
<thead>
<tr>
<th>V¹, 44ra:38-44rb:2</th>
<th>F¹, 112 rb:1-112va:1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ve, LXVIIIvb-LXIXra</strong></td>
<td><strong>F², 105rb:31-105va:30</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Latin</th>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sapientes omnes consenserunt quod ille qui mare ingeditur Saturni hora debet submergi, nisi secum Jupiter exitet, aut in aspectu bono angulorum unius.</td>
<td>Tout li sage octroyerent que c’il qui va en mer en l’eure de Saturne doit a fonder fors que si est Jupiter avec li ou en regart bon de un des angles.</td>
</tr>
<tr>
<td>Et cave ne ingrediaris iter aquaticum sub signo igneo quoniam.8a. que domus est mortis signum est aqueum.</td>
<td>Et garde que tu n’entres en voie d’iaue sur signe de feu car la.8e. qui est de mort est signe d’iaue.</td>
</tr>
<tr>
<td>Et melius est cum fuerit aliquid eorum ascendens.</td>
<td>Et meilleur quant sera un d’eus ascendant.</td>
</tr>
<tr>
<td>Quod si posueris Cancrum et non aspiciat Luna ipsum bono aspectus Iovis est bonus, pone aspectum bonum et dominum.3e. in aspectu fortune et non sit malus in eius domo neque aspectus malus secum.</td>
<td>Et se tu pres Carcre et non a la Lune bon regart a li regart de Jupiter est bon, met le regart de la.3e. en regart d’estoiole bone et ne soit estoile male en sa meson ne en regart mal avec li.</td>
</tr>
<tr>
<td>Et similiter ascendants ac ipsius domus sit in loco bono directus non combustus et quod non sit in.3a. planeta retrogradus vel combustus, et fortitudo domini hore in omni re est sicut fortitudo domini ascendenti.</td>
<td>Et ausi l’ascendant et son seigneur en lieu bon droit en non ars et que non soi en la tierce estoile retrograde ou arse. Et le seigneur de l’eure sa force en toites choses comme la force de l’ascendant.</td>
</tr>
<tr>
<td>Et cave ne sit Luna in itinere marino in Piscibus nisi fuerit cum Iove vel Venere aut vim dando uni eorum existenti in loco fortunato aun in aspectu fortunato Solis.</td>
<td>Et garde que ne soit la Lune en Poissons en voie de mer fors que si fu avec Jupiter ou Venus ou donant force a un d’eus qui est en lieu bon ou en bon regart du soleil.</td>
</tr>
<tr>
<td>Et similiter si quesiveris preliari in mari.</td>
<td>Et ausi se tu qers abateillier en mer.</td>
</tr>
</tbody>
</table>