

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 greco-árabe 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 astrológica 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 astrológicos. 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 París (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.

² See José M.^a MILLÁS VALLICROSA, (ed.), *El Libro de los Fundamentos de las Tablas Astronómicas de R. Abraham Ibn Ezra* (Madrid-Barcelona: CSIC, 1947), and Julio SAMSÓ, "'Dixit Abraham Iudeus': algunas observaciones sobre los textos astronómicos latinos de Abraham ibn 'Ezra," *Iberia Judaica* IV (2012) pp. 171-200.

on nativities but has no counterpart in his extant oeuvre.³ However, Ibn Ezra remained outside the mainstream of Latin astrological literature until the last decades of the thirteenth century.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.⁵ In 1281 and 1292 Bate produced six Latin translations of astrological treatises by Ibn Ezra.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.⁷ Three more Latin translations of astro-

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," *Revue des études juives* 177(3-4) (2018) pp. 313-348.

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 stellarum*, the most important astrological work of the thirteenth century, composed by Guido Bonatti around 1270.

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 Hokhmah*); (2) *Livre des jugemens des nativités* (= *Moladot*); (3) *Le livre des elections Abraham* (= *Mivharim II*); and (4) *Le livre des interrogations* (= *She'elot II*).

⁶ Henry Bate's Latin translations include the following items: (1) *De mundo vel seculo* (= *Olam I*); (2) *Introductorius ad astronomiam* (= *Reshit Hokhmah*); (3) *De luminaribus seu de diebus creticis* (= *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* (= *Ṭe'amim I*); (6) *Liber causarum seu racionum* (= *Ṭe'amim II*). Only one of the six treatises translated by Henry Bate in 1281 and 1292 (*Reshit Hokhmah*) 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.

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 Hokhmah*; 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 1336.⁸ There are also a number of anonymous Latin translations of astrological treatises by Ibn Ezra that still remain to be studied.⁹

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 1507,¹⁰ 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,

STEEL, Steven VANDENBROECKE, David JUSTE and Shlomo SELA (Leuven: Leuven University Press, 2018) pp. 68-74.

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* (*Mivharim* II; fols. 91v-96r); (3) *Tractatus particulares* (fols. 96v.6-103r.9).

⁹ Anonymous translations of the following works are found in the following manuscripts. (1) *Moladot* II: Erfurt, UFB, Amplon. O.89, fols. 43r-68v; Vienna, ÖNB, Cod. 5442, fols. 203va-217vb. (2) *Mivharim* I: Oxford, Bodleian, Canon. Misc. 109, fols. 160r-180v. (3) *Mivharim* II: Erfurt, UFB, Amplon. O.89, fols 46v-52v; Vienna, ÖNB, Cod. 5442, fols. 198v-203v; and Darmstadt, Hessische Landes- und Hochschulbibliothek, MS 739, fols. 183vb-184va. An additional translation is in Oxford, Bodleian, MS Digby 212, fols. 64v-67v; Oxford, Bodleian, MS Auct. F.5.29, fols. 105v-111v; and London, British Library, MS Royal 12.C.XVIII, fols. 26rb-30va. (4) *Mivharim* III: Erfurt, UFB, Amplon. O.89, fols 39b-46b, and Vienna, ÖNB, Cod. 5442, fols. 192b-198b. (5) *She'elot* I: Oxford, Bodleian, Canon. Misc. 109, fols. 110r-143v. (6) *She'elot* II: Erfurt, UFB, Amplon. O.89, fols. 30r-39v and Vienna, ÖNB, Cod. 5442, fols. 186r-192v. Another translation is in Oxford, Bodleian, MS Digby 212, fols. 67v-71v and in London, British Library, MS Sloane 312, fols. 1r-8v. (7) *She'elot* III: Erfurt, UFB, Amplon. O.89, fols. 19v-30r and Vienna, ÖNB, Cod. 5442, fols. 180r-186r. (8) A section of *Mishpetei ha-Mazzalot*: Erfurt, UFB, Amplon. O.89, fols. 5r-19v. (9) *Me'orot*: Oxford, Bodleian, Canon. Misc. 109, fols. 144r-159r. (10) *Tequfah*: Erfurt, UFB, Amplon. O.89, fols. 69r-72v and Vienna, ÖNB, Cod. 5442, fols. 218ra-220vb.

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)
- LI**, 292:715-721 = Abū Ma'shar al-Balkhī (Albumasar), *Liber introductorii maioris as scientiam judiciorum astrorum*, ed. Richard Lemay (Naples: Istituto Universitario Orientale, 1996), vol. V (Texte latine de Jean de Séville avec la Révision par Gérard de

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**, Ira = *Abrahe Avenaris Iudei Astrologi peritissimi in re iudiciali opera ab excellentissimo philosopho Petro de Albano post accuratam castigationem in Latinum traducta* (Venice: Petrus Liechtenstein, 1507), sig. Ira (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. PREVIOUS 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

¹¹ Paulin PARIS, *Histoire littéraire de la France*, XXI (Paris: Firmin Didot, 1847) pp. 499-503.

flourished in Toledo in the twelfth century,¹² 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 Hokhmah* (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 P⁴). The third claim is that Pietro's Latin versions are superior to Hagin's French. As an example, Paulin Paris cited "Henoeh" and "Betelemieus," names found in Hagin's French translations and signs of his "grossière 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 F¹), Paulin Paris listed Hagin's four French translations used by Pietro for his own Latin translations.¹³

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.¹⁴ 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.

¹⁴ Moritz STEINSCHNEIDER, *Die Hebraeischen Uebersetzungen des Mittelalters und die Juden als Dolmetscher* (Berlin: Kommissionsverlag des Bibliographischen Bureaus, 1893), §582, p. 973, and "Abraham Ibn Esra (Abraham Judaeus, Avenare)," *Supplement zur Zeitschrift für Mathematik und Physik* 25 (1880) p. 126 (= *Gesammelte Schriften* [Berlin, 1925] pp. 495-496).

(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.”¹⁵ 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 translations¹⁶ and listed Ibn Ezra’s works translated by Pietro that had not been translated into French.¹⁷ 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,¹⁸ a possibility that Moritz Steinschneider had dismissed in 1904.¹⁹

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

¹⁵ Lynn THORNDIKE, *A History of Magic and Experimental Science* (New York: Columbia University Press, 1923-1958) vol. 2, pp. 677-878.

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 particulares*; see THORNDIKE, *A History of Magic and Experimental Science*, vol. 2, pp. 926-930.

¹⁸ THORNDIKE, *A History of Magic and Experimental Science*, vol. 2, p. 878.

¹⁹ Moritz STEINSCHNEIDER, *Die europäischen Übersetzungen aus dem Arabischen bis Mitte des 17. Jahrhunderts* (Vienna: Gerold, 1904) pp. 58-59.

1517 print edition.²⁰ 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 Hokhmah*. This allowed him to show that Hagin's "Henoah" 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."²¹ 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."²²

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

²⁰ Raphael LEVY, *The Astrological Works of Abraham Ibn Ezra* (Baltimore: The Johns Hopkins University Press, 1939) pp. 32-46.

²¹ LEVY, *The Astrological Works of Abraham Ibn Ezra*, pp. 41-46.

²² Lynn THORNDIKE, "The Latin Translations of the Astrological Tracts of Abraham Avenezra," *Isis* 35 (1944) pp. 293-302.

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.

²⁴ *De motu*, Capitulum tertium, in Graziella Federici VESCOVINI, *Pietro d'Abano, Trattati di Astronomia* (Padua: Programma, 1992) p. 356.

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 1310,²⁵ Pietro refers to “Abraam Ebenare astrologus, quem in latinum ordinavi” = “Abraham Ibn Ezra, the astrologer, whom I set in order in Latin.”²⁶ 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-Me’orot* (Book of the luminaries, henceforth, *Me’orot*).²⁷ 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.”²⁸ 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*,²⁹ which Pietro quotes or paraphrases in his

²⁵ Sante FERRARI, “Per la biografia e per li scritti di Pietro d’Abano,” *Memorie della R. Accademia del Lincei, Classe de scienze morali, storiche e filologiche*, serie V. vol. 15, fasc. 7 (1918) pp. 622-722: 654-655.

²⁶ See PIETRO D’ABANO, *Conciliator controuersiarum, quae inter philosophos et medicos versantur; Petro Abano Patauino, philosopho ac medico clarissimo, auctore* (Venice: Giunta Lucantonio, 1565), Diff. XXIII, sig. 36ra.

²⁷ See PIETRO D’ABANO, *Conciliator*, Diff. XXIII, sig. 36ra: “Non est possibile ut complexio unius non sit a complexione alterius alia diminutione vel augmento. Non enim possunt particulariter duo homines inueniri euales in suis complexionibus operationibus et cogitationibus;” cf. *Liber de luminaribus* in *Ve*, LXXIIva; *Me’orot*, §7:2-3, 458-459.

²⁸ See *Lucidator*, Diff. Prima, “Propter Primum,” in VESCOVINI, *Pietro d’Abano*, p. 115.

²⁹ See MILLÁS VALLICROSA, *El Libro de los Fundamentos de las Tablas Astronómicas de R. Abraham Ibn Ezra*, p. 73.

own oeuvre.³⁰ The reference to “Abraham duplex Avenare” implies that Pietro took “Abraham Avenare” and “Abraham Iudeus” to be the same person.³¹ This is corroborated by the explicit reference, in another part of his *Lucidator*, to “Abraham Iudeus, appellatus Avenare” = “Abraham the Jew, called Ibn Ezra.”³² So Pietro refers here to the “double Abraham” because he is alluding to Ibn Ezra’s double contribution, astrological and astronomical,³³ 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

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.”

³² See *Lucidator*, Differentia Secunda, “Proper tertium” (VESCOVINI, *Pietro d’Abano*, p. 186).

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 (**O**¹: Habraham Havenarre; **L**: Abraham) ex dictis sapientium et floribus antiquorum cuius quidem sunt.5. (**O**¹:.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 sapientie*

P¹, 94rb-94va (cf. **L**, 115r-115v; **O**¹, 48rb): (1) Explicit *Liber Principium sapientie* intitulatus, (2) editur ab Abrahae Nazareth vel Aezera Iudeo (**O**¹: 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 imperitiam 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 textus 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**, **Ilra**: Incipit liber introductionis Abrahae Avenaris in iudicia astrorum qui dicitur *principium sapientie*.

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-Te'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-Te'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 to 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 Aezera 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

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 Hokhmah* 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 nativitatibus 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 Hokhmah*, 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 Hokhmah* 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 Hokhmah* 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 Hokhmah*, §2.1:40, 62-63.

⁴² **P¹**, 78ra, line 32: "quod est a creatione Ade.4909. anni."

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 Hokhmah* 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,⁴³ is a Latin translation, without additions or omissions, of *Reshit Hokhmah*,⁴⁴ 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.⁴⁵

⁴³ See, below, §4.

⁴⁴ See, below, Appendix 1, I, first and last sentences.

⁴⁵ *Abraham Ibn Ezra's Introductions to Astrology*, A Parallel Hebrew-English Critical Edition of the *Book of the Beginning of Wisdom* and the *Book of the Judgments of the Zodiacal Signs*, ed., trans. and annot. Shlomo SELA (Leiden: Brill, 2017) pp. 33-38, 635-638. This edition is used for all quotations from or references to the Hebrew text and English translation of *Reshit Hokhmah*, in the following format: *Reshit Hokhmah*,

Pietro refers to *Principium sapientie*, translated in 1293, in his *Liber compilationis phisonomie*, composed in 1295, while he was studying and teaching in Paris.⁴⁶ 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 Hokhmah*. At the end of the second chapter of *Liber compilationis phisonomie*, Pietro refers to his sources, including “Abrae Havenstre Iudei dicitur *Principium sapientie* que quidem prout mihi melius possibilitas adfuit cum correctione ipsiusque declaratione in latinum ordinaui” = “The *Beginning of Wisdom* by Abraham Ibn Ezra, the Jew, which I put in order in Latin in the best manner I could.”⁴⁷

3.1.1. The source text of *Principium sapientie*

The *Principium sapientie* is not the only translation of *Reshit Hokhmah* 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,⁴⁸ and by *Initium Sapientiae*, a Latin translation produced by Bate in Orvieto in 1292,⁴⁹ 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*

§10.3:7, 270-271 = *Reshit Hokhmah*, chapter 10, section 3, sentence 7, in *Abraham Ibn Ezra's Introductions to Astrology*, pp. 270-271.

⁴⁶ 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.

⁴⁷ PIETRO D'ABANO, *Liber compilationis phisonomie* (Padua, 1474) p. 79; cf. Paris, BnF, MS Latin 16089, fol. 109vb.

⁴⁸ F¹, 1ra-66rb; F², 1ra-66rb. For a critical edition, see *The Beginning of Wisdom, An Astrological Treatise by Abraham Ibn Ezra*, ed. Raphael LEVY and Francisco CANTERA (Baltimore: The Johns Hopkins University Press, 1939) pp. 31-125.

⁴⁹ See *Le*, 2ra-23va.

Hokhmah.⁵⁰ Since Bate commissioned *Li livres du Commencement de Sapience*, it stands to reason that he used Hagin's translation for his own version of *Reshit Hokhmah*.⁵¹ But was Hagin's French translation also Pietro's source text for *Principium sapientie*?

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

(I) I begin with a comparison of the explicits of *Reshit Hokhmah* (according to one of the manuscripts) and of Hagin's and Pietro's translations of *Reshit Hokhmah*:

Reshit Hokhmah, §10.3:6, 270-271: נשלם ספר ראשית חכמה לראב"ע ל"א = This ends the book *Beginning of Wisdom* by R" A" B" E (= Rabbi 'Abraham the son of 'Ezra), his memory for a blessing.

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 *Beginning of Wisdom*, which was composed by Abraham Ibn Ezra, or Ibn Ezra, <a name> whose translation is "Maistre de Aide" (i.e., master of help).

P¹, 94rb (Pietro): Explicit *Liber Principium sapientie* intitulatus, editur ab Abrahae Nazareth vel Aezera Iudeo, qui Magister Adiutorii est appellatus. = Here ends the book called *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).

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 *Reshit Hokhmah*. It also emerges that the mysterious "Magister Adiutorii" of the Latin explicit is simply a translation of "Maistre de

⁵⁰ See SELA, "The Abraham Ibn Ezra-Peter of Limoges Astrological-Exegetical Connection," pp. 20-22.

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.

⁵² See, above, §1.

Aide” in the French explicit. In the latter designation, the Latin “magister” 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 עזרא *ezra* 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.”⁵³

(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: ועל הבית העשירי יורה על האם, ועל המלוכה, ועל השם, ועל כל אומנות. ובעל השלישיות 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.

F¹, 34va (Hagin): La 10^e meson enseigne sur rois et oevres, et hautece, et essaucement, et roiaume, et mémoire, et vois.1. de commandement, et sur maistries, et sur les meres, et gloire, et loenge, et chose emblee ou ostee, et les juges, et les princes et les prelas, et enseigne sur la moitié des ans de la vie. Et dit Alendezgoz que le sires de la triplicité premiere enseigne sur oevre et essachement, ch’est hauté de siege, et mansion tres haute; le secont enseigne sur vois de commandement et hardiece en cele; li tiers senefie estableté et la durableté.

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 furatam aut iudices, principes, prelatos atque dimidium annorum vite. Et inquit alentixgos 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 interpretatus Adiutorii.”

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

[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-Andarzaghar 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 Hokhmah* assigns winds to the zodiacal signs. Sagittarius, for example, is allocated רוח קדים, *ruah qadim*, "wind of *qadim*," meaning "east wind."⁵⁴ Hagin half translates half transliterates this locution as "vent de *ruhahih*."⁵⁵ Pietro follows suit and writes "ventus *ruhahih*."⁵⁶ (b) Where *Reshit Hokhmah* 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 צבועים or צבוע, *ṣevu'im* or *ṣavua'*, means hyena(s), Hagin did not translate but transliterated as

⁵⁴ *Reshit Hokhmah*, §2.9:9, 108-109.

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., *ruhahih*), 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.

sevhachim or *scevoe*. Here Pietro did offer translations: *lupi* and *lupus*,⁶⁰ “wolves/wolf.” However, in a fourth passage where Ibn Ezra has צבוע, *šavua* ‘, hyena, and Hagin transliterated *scevoe*, Pietro wrote *canis ferus*,⁶¹ “wild dog.” Here, though, *canis ferus* occurs in a marginal annotation alongside *scevoe* in **F**¹,⁶² 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 Hokhmah* we find איש רעים, *’iš re ‘im*, a biblical expression (Prov. 40:22) meaning “sociable.” But Hagin mistook the *reš* in the second word for a *dalet*, read איש דעים, *’iš de ‘im*, and consequently produced “home de science” = “man of knowledge.” Pietro followed suit: “scientieque homo.”⁶³

(b) *Reshit Hokhmah* has בידו שוט, *ונהג הבהמות*, = “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 plaustrum.”⁶⁴

(V) An eye-catching feature throughout Ibn Ezra’s oeuvre is his use of biblical words to denote scientific terms.⁶⁵ Hagin correctly translated

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

⁶¹ *Reshit Hokhmah*, §2.9:20, 110-111; cf. **F**¹, 22va; **P**¹, 83rb. Interestingly enough, Bate offers the same translation, *canis ferus*, in his own translation of *Reshit Hokhmah*; see **Le**, 8vb.

⁶² **F**¹, 22va.

⁶³ *Reshit Hokhmah*, §2.10:24, 110-111; cf. **F**¹, 25ra; **P**¹, 84rb.

⁶⁴ *Reshit Hokhmah*, §2.5:21, 88-89; cf. **F**¹, 14rb; **P**¹, 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 "pourceint 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

see Shlomo SELA, *Abraham Ibn Ezra and the Rise of Medieval Hebrew Science* (Leiden: Brill Academic Publishers, 2003) pp. 104-106.

⁶⁶ SELA, *Abraham Ibn Ezra and the Rise of Medieval Hebrew Science*, pp. 107-116.

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 (pourceint 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 شرف.

⁷¹ For exaltation, see *Reshit Hokhmah*, §1.11:1, 56-57 (כבוד); cf. F¹, 3vb (eneur); 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 honori) et passim.

of cardines or angles. Pietro followed Hagin and wrote “dedecus” and “caville.”⁷²

3.1.2. The Use of John of Seville’s Latin translation of Abū Ma‘shar’s *Great Introduction*

Chapter 7 of *Reshit Hokhmah*, which is a Hebrew translation of several sections from part 7 of Abū Ma‘shar’s *Great Introduction*, names and describes 30 planetary conditions.⁷³ 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 Ma‘shar’s *Great Introduction*. Let us see some examples.

One of the planetary conditions mentioned by Abū Ma‘shar 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.⁷⁴ Ibn Ezra avoided the literal translation of the metaphor and referred to this condition as אמצעיית, “intermediacy.” Hagin followed Ibn Ezra and translated אמצעיית as “miloennetes,” meaning “being placed in the middle.” Pietro wrote *obsessio*, “siege,” which is John of Seville’s Latin calque of حصار.⁷⁵

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 Hokhmah*, in

⁷² For dejection, see *Reshit Hokhmah*, §2.4:36, 82-83 (קליון); cf. **F**¹, 12va (honte); **P**¹, 80rb (dedecus) et passim. For cardines, see *Reshit Hokhmah*, §3.4:2, 142-143 (יתדות); cf. **F**¹, 33rb (chevillies); **P**¹, 86va (caville) et passim.

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

⁷⁴ *The Great Introduction to Astrology by Abū Ma‘shar*, eds. Keiji YAMAMOTO and Charles BURNETT (Leiden: Brill, 2019), VII:6, [8], 792-793.

⁷⁵ *Reshit Hokhmah*, §7.32:1-2, 219-211 (אמצעיית); cf. **F**¹, 51vb (miloennetes); **P**¹, 91vb (mediatio vel obsessio); **LI**, 307:1244 (obsessio).

Hagin's and Pietro's translations, as well as in John of Seville's Latin translation of Abū Ma'shar:

Reshit Hokhmah, §7.31:1, 186-187: והדמיון, שיהיה הכוכב הזכר ביום = 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 حَيْر, *hayyiz*, "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

Pietro	John of Seville	Ibn Ezra	Hagin le Juif
translatio	translatio	העתקה = transfer (to another place)	le remuement
pulsatio fortitudinis	pulsatio fortitudinis	תת הכח = giving power	le donement de la force
redditus luminis	redditus luminis	השבת האור = reflecting the light	le retournement de la clarte
refrenatio	refrenatio	הביטול = cancellation	le destorbement
abscisio luminis	abscisio luminis	כריתות האור = cutting the light	le detaillement de clarté
largitio	largitio	הנועם = pleasantness	le souvantume
Collectio	collectio	הקבוץ = clustering	l'ammassement

⁷⁶ The following names appear together, in the following loci: **P**¹, 90vr and **Ve**, XXIII ra; **LI**, 292:715-721; *Reshit Hokhmah*, §7.1:1, 196-197; **F**¹, 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 Hokhmah*, in Hagin's and Pietro's translations, and in its counterpart in John's Latin translation of Abū Ma'shar:

Reshit Hokhmah, §5.5:6-7, 186-187: או שיהיה הכוכב עם ראש התלי או שיהיה ביניהם פחות שלו או עם זנבו; או עם ראש התלי של לבנה או זנבו, ויהיה ביניהם מעלות. = 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.° 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.

LI, 306:1227-1229 (John of Seville): Aut sint cum capitibus suorum *geuzahar* vel caudis eorum, aut sint cum capite vel cum cauda, et sint inter ipsos et ea.XII. gradus vel infra.

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 جوزهر, *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 Hokhmah*. A distinctive feature of *Reshit Hokhmah* is the use for the constellations Hydra, Ophiuchus, and Serpens of the Hebrew word חיה, *hayyah*, "animal" –even though all three constellations are related

not to any animal but to a snake.⁷⁷ Hagin follows suit and in all these cases translates “biche,” which means animal.⁷⁸ Pietro, however, provides the correct names, as shown in the following table:

Constellation/star	<i>Reshit Hokhmah</i>	Hagin le Juif	Pietro d'Abano
Hydra	החיה = the animal §1.4:9, 52-53	la biche F ¹ , 2rb; in the margin: cetus	serpens vel edra P ¹ , 76vb
Ophiuchus	עוצרת החיה = the one who holds the animal §1.5:14, 52-53	qui retient la biche F ¹ , 2va; in the margin: serpentarius	serpentarius vel retinens serpentem P ¹ , 77ra
Serpens	החיה = the animal §1.5:15, 52-53	la biche F ¹ , 2rb; in the margin: serpens	serpens P ¹ , 77ra

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 ‘*ash* or “‘*ayish* and her sons” (Job 38:32 et passim), for Ursa Minor and Ursa Major; *kesil* (Job 9:9 et passim) for Canopus or *suhail*; and *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:

⁷⁷ This is so because the passages where *Reshit Hokhmah* has החיה, *hayyah*, are translations from the catalogue of constellation in Abū Ma‘shar’s *Kitāb al-mudkhal al-kabīr*, which employs the Arabic حية, *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 Hokhmah*, §2.1:25, 60-61 and note on 438.

⁷⁸ See *Reshit Hokhmah*, §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. P¹, 2rb, 2va, 4vb, 5ra.

Constellation/star	<i>Reshit Hokhmah</i>	Hagin le Juif	Pietro d'Abano
Ursa Minor	<p>האחת עיש ובניה</p> <p>The first is 'ayish and her sons</p> <p>§1.5:2, 52-53</p>	<p>עיש et set enfants</p> <p>F¹, 2rb</p> <p>עיש is written in Hebrew letters in the manuscript</p>	<p>et est ursa minor cum ipsius puerulo</p> <p>P¹, 76vb-77ra</p>
Ursa Major	<p>ואשר הם בדוב הגדול, הם עיש ובניה</p> <p>The <stars> in the Greater Bear [Ursa Major], which are <called> 'ayish and her sons</p> <p>§2.15:3, 136-137</p>	<p>et celes qui sont en l'ours grant, que c'est aeis</p> <p>F¹, 30vb</p>	<p>qui autem in grandiori sunt ursa que sunt calixto et eius filius</p> <p>P¹, 77ra</p>
α Car (Canopus or <i>suhail</i>)	<p>המאיר הנקרא כסיל</p> <p>the bright <star> called <i>kesil</i></p> <p>§2.16:10, 136-137</p>	<p>et le cler qui est apelés <i>kescil</i></p> <p>F¹, 31rb</p> <p>in the margin: orion lucida id est feu ou cler ou aventure</p>	<p>lucida vero <i>kesil</i> vel <i>suail</i> dicta</p> <p>P¹, 86ra</p>
Pleiades	<p>וכימה על גבן</p> <p>and <i>kimah</i> is on their back</p> <p>§1.3:3, 50-51</p>	<p>et <i>kima</i> sur leur dos</p> <p>F¹, 2ra</p>	<p>Et <i>kima</i> super ipsius dos</p> <p>P¹, 76vb</p>
Pleiades	<p>והנולד באחת מעלות כימה</p> <p>One who is born in the degrees of <i>kimah</i></p> <p>§2.2:27, 68-69</p>	<p>Et celi qui est nés en un des degrés de <i>kima</i></p> <p>F¹, 7va</p>	<p>natus autem in uno graduum <i>kima</i></p> <p>L, 88v</p>

Constellation/star	<i>Reshit Hokhmah</i>	Hagin le Juif	Pietro d'Abano
Pleiades	וכימה ממסך מאדים ולבנה <i>Kimah</i> is a mixture of Mars and the Moon §2.14:3, 132-133	Et <i>kima</i> est du mellement de mars et de la lune F ¹ , 29vb	<i>kima</i> quidem est de martis et lune P ¹ , 85va

As expected, Hagin transliterates the biblical names. Pietro, too, offers a transliteration of *kima*, that is, the Pleiades.⁷⁹ 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,⁸⁰ is a Latin translation of the second version of Ibn Ezra's *Sefer ha-Te'amim* (Book of Reasons, henceforth *Te'amim* II), which survives in at least 25 Hebrew manuscripts.⁸¹ *De rationibus* is a complete Latin translation of *Te'amim* II,⁸² but following the translation it brings an extensive tripartite addition, as will be shown in due course. A peculiar-

⁷⁹ I have relied here on the earliest manuscript tradition (manuscripts **P**¹, and **L**). Note, however, that other manuscripts translate *kima* as Pleiades; see, for example, **Ve**, **Ilva**, **Vva**, **XVIra**.

⁸⁰ See, below, §4.

⁸¹ ABRAHAM IBN EZRA, *The Book of Reasons, A Parallel Hebrew-English Critical Edition of the Two Versions of the Text*, ed., trans. and annot. Shlomo SELA (Leiden-Boston: Brill Academic Publishers, 2007) p. 367. This edition is used for all quotations from or references to the Hebrew text and English translation of *Te'amim* II, in the following format: *Te'amim* II, §2.4:16-17, 194-195 = *Te'amim* II, chapter 2, section 4, sentences 16-17, in Abraham Ibn Ezra: *The Book of Reasons*, pp. 194-195.

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.⁸³

Ibn Ezra wrote the two versions of *Sefer ha-Ṭe'amim* to flesh out the raw concepts formulated in *Reshit Hokhmah*. According to the aforementioned explicit of *Principium sapientie*,⁸⁴ *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 *Ṭe'amim* II to be a commentary on *Reshit Hokhmah*. But Pietro was wrong: whereas the first version of Ibn Ezra's *Sefer ha-Ṭe'amim* is full of quotations from *Reshit Hokhmah*, it is virtually impossible to find obvious quotations from *Reshit Hokhmah* in *Ṭe'amim* II. In fact, *Ṭe'amim* II is a commentary on the almost completely lost second version of *Reshit Hokhmah*.⁸⁵

In the discussion of the order of the planets' orbs in his *Lucidator*, Pietro translates a long passage from *Ṭe'amim* II in which Ibn Ezra endorses a partially heliocentric theory.⁸⁶ 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.⁸⁷

⁸³ See, below, Appendix 1, II, first and second explicits.

⁸⁴ See, above, §2.

⁸⁵ See Shlomo SELA, "A Fragment From an Unknown Redaction of *Re'sit Hokhmah* by Abraham Ibn Ezra," *Aleph* 10:1 (2010) pp. 43-66.

⁸⁶ *Ṭe'amim* 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 יוכל אדם לראותם בהיותם נחברים עם השמש, ועוד בעבור היות גלגל המוצק שוה לכל אחד מהם. ולפי דעתי שדברי "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 below and sometimes they are above <the Sun>, and this requires a long explanation."

⁸⁷ See *Lucidator*, Diff. Sexta, "Propter Secundum" (VESCOVINI, *Pietro d'Abano*, p. 316): "Unde Abraham Avenharc: 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 ecentricus 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 *Te'amim II* known today is the *Liber causarum seu racionum*, produced by Bate in Orvieto in 1292.⁸⁸ No French translation of *Te'amim 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 *Te'amim 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:

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

V¹, 22ra (Pietro): Media sunt in bruti forma, aquatica autem multos. Et res omnes huiusmodi sunt valde necessarie in nativitatibus, questionibus atque electionibus. Maris autem signum est 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.

tiam, subdit, utriusque dicta sunt vera. Sunt enim aliquando infra, interdum vero supra. Et longa indigeret glossa;" cf. O¹, 67va: "Discordia non parva inter sapientes existit an Venus et Mercurius sint supra Solem vel infra. Et causa huius est quoniam non convenit ipsos videre cum fuerint sub Sole, et rursus quia uniuscuiusque ecentricus equalis. Secundum autem sententiam meam utrorusque dicta sunt vera: sunt enim aliquando infra aliquando supra. Et longa indiges glosa."

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 *Te'amim* I checked.

(II) The second example is whether Capricorn belongs to the Sun's or the left side:⁸⁹

Te'amim II, §2.3:8, 188-189: חלק השמאל. = So Capricorn is in the left side.

V¹, 21va (Pietro): Et ideo est Capricornius in parte Solis.

So Capricorn is in the side of the Sun.

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:

Te'amim II, §2.4:4-5, 9, 192-193: (1) השמים. תאומים הוא ממזלות הרוח ואין מזל במזלות גבוה ממנו בעבור שהוא סוף צפון, ולא כן סרטן כי הוא מתולדת המים, והשמים הוא אויר. (2) השדים. אמרו כי דלי מזל שדים בעבור שהוא בית שבתאי, כי הוא יורה על המרה השחורה המראה השדים... (3) ועוד, כי אם שמנו השמש בתחלת טלה, שם תוקף גבורתו, אז יהיה המזל = (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.

V¹, 21vb (Pietro): (1) Gemini sunt ventorum signa, quorum nullum est altius est namque ultimum septentrionis, non sic quidem Cancer, est enim nature aque, areei autem Gemini. (2) Principum autem signum posuerunt Aquarium, eo quod est domus Saturni, denotat enim melancoliam et diabolorum apparentiam ... (3) Amplius si posuerimus Solem in

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 Arietis 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 aqueis est, Gemini vero de aereis. (2) Principes seu duces, legis latores 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 *Te'amim* 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.⁹⁰ This transliteration is employed in both Latin translations of *Te'amim* II to denote the category of the מומים, "deformed" zodiacal signs:⁹¹

Te'amim II, §2.3:17, 190-191: המומים. דבר זה ידעוהו חכמי המזלות: או כי המזלות שהם על צורת בן אדם אין בהם מום, גם קשת בדרך הנסיון, או כי המזלות שהם על צורת בן אדם אין בהם מום, גם קשת = Deformities. Astrologers knew this through experience, or because the signs that have a human shape have no deformities, and Sagittarius is among them.

Ba, 132ra (Pietro): *Acehemena*. Cognita sunt experientia sapientium, et quod signa in forma hominis non sunt *acehemena*, et Sagittarius est cum illis.

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

⁹⁰ AL-QABĪṢĪ (Alcabitius): *The Introduction to Astrology*. Editions of the Arabic and Latin texts and an English translation, ed. and trans. Charles BURNETT, Keiji YAMAMOTO, and M. YANO (London and Turin: The Warburg Institute – Nino Aragno Editore, 2004) pp. 44-45.

⁹¹ For this category of signs, see *Mishpetei 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;⁹² in Guido Bonatti's *Liber Introductorius ad Iudicia Stellarum*, composed after 1277;⁹³ and in Leopold of Austria's *De Astrorum Scientia*, composed soon after 1278.⁹⁴

(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 directed⁹⁵ 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"⁹⁶ to gauge the native's lifespan. The following two passages from *Te'amim* 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:

⁹² AL-QABĪSĪ, *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) *Te'amim* II, §6.2:11, 238-239: ואם לא נוכל לקחת החיים מאחד = 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 tunc 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) *Te'amim* II, §6.2:5, 236-237: והקדמונים אמרו כי המאור כדמות האם, והשליט על מקומו הוא האב, על כן יקראו מקום המאור הילאג, = 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 principatione 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 signicator.

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 החיים, “the life,” and the “ruler of the native” is המושל, 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'amim* II, §4.4:3, §4.5:3, 210-211: כח ויהיה לנצוח גלגל המוצק כח רב... כי בגלגל הקטן במהרה ישתנה מגבהות לשפליות... הנה נקודת גלגלם לא תהיה 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).

V¹, 23va-23vb (Pietro): Et victoria eccentrici est fortitudo magna... in epiciclo namque subito permutatur ab alto in infimum ... et centrum circuli eorum non erit centrum ecliptici circuli.

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 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'amim* II, §8.3:2, 250-251: וזה אמת רק כנגד הצורות ואין צורך לשמש שלהם, רק למי שיתעסק בחכמת הצורות, והיא אסורה בתורת השם. = 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).

V¹, 27vb (Pietro): Et hoc est verum quantum ad imagines, et non expedit in anno Solis nisi illi 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 A similar approach is found in Bate’s translation of the same passage of *Te’amim* 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 negociatur ymaginum. 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 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.”⁹⁹ 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*.¹⁰⁰ 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.¹⁰¹

(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 angels¹⁰² 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.¹⁰³ *De gubernatoribus* mentions key events in the history of the Jewish people¹⁰⁴ and designates the year

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

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.

¹⁰¹ See *Abraham Ibn Ezra Latinus on Nativities*, pp. 48-49, 457-459.

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**, XLIIIva-XLIIIvb. For a study of the 354-year cycle of planetary angels, see Ulrich MAICHLE, “Der 354-jährige Zeitzzyklus der Planetenengel” (Berlin, 2018), at <http://www.michelnostadamus.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 Ysrael* "ruler in the epoch of Israel," and as *princeps noster* "our ruler."¹⁰⁵

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."¹⁰⁶ 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.¹⁰⁷

(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"),¹⁰⁸ and is based on a letter sent from Spain.¹⁰⁹ *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."¹¹⁰ The meaning of this enigmatic locution is somewhat clarified when *De significationibus* states that

¹⁰⁵ See **O**¹, 62vb: Michael princeps, sicut scriptum est, tempore Israel, 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, Miqrahot Gedolot* (Venice 1525 [repr. Jerusalem 1972]), 7:14: מיכאל נקרא השר הגדול והנה תחתיו משרתים והם צבא השמים; 12:1: השר הגדול על ישראל.

¹⁰⁷ See PIETRO D'ABANO, *Conciliator*, Diff. IX, "propter tertium," sig. 15ra.

¹⁰⁸ See, e.g., **O**¹, 62vb-63ra; **Ba**, 141rb-141vb; **P**⁴, 53ra-53vb; **P**², 63va; **Z**, 58va-vb; **Ve**, XLIIIvb-XLIVrb.

¹⁰⁹ **O**¹, 62vb: Ab Hispania venit littera.

¹¹⁰ **O**¹, 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.”¹¹¹ So “the 25th year” corresponds to 1264 C.E. In addition, *De significationibus* (a) creates a correspondence between Tamuz and June;¹¹² (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;¹¹³ and (c) refers to a planet that is “in domo sui dedecoris,” a Latin translation of בְּבֵית קְלוֹנוֹ, which is Ibn Ezra’s neologism used to denote “the house of its dejection.”¹¹⁴ 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 *Te’amim* II and the second at the end of the tripartite addition.¹¹⁵

tion of the inhabitants of the Earth, the growth of science, discipline, justice, faith of truth, etc. in relation to places such as Armenia, Egypt, and Cordoba, etc.

¹¹¹ **O¹**, 62vb: “similiter eclipsabitur in mense Tevet anno.26. et hic est nocte.24. mensis Decembris anni.1265.” Tevet is the fourth month of the Hebrew calendar, and corresponds to December-January on the Gregorian Calendar.

¹¹² **Ba**, 141va: “Et lune eclipsabitur tertium aut punctum diei, in.14. die, Tamuz Iunii, que est nox.3a. in fine Iunii termini anni.” Tamuz is the tenth month of the Hebrew calendar and corresponds to June-July on the Gregorian calendar.

¹¹³ **Ba**, 141va: “Et eclipsabitur similiter luna.19. Iunii anno.1265. ... Et similiter eclipsabitur sol totus anno.1267.”

¹¹⁴ **Ba**, 141rb. For this expression, see p. 18.

¹¹⁵ In some of the manuscripts, the first explicit reads: “Hic completus est Liber Rationum”; the second explicit reads: “Explicit translatio Libri de Rationibus per Petrum Paduanus.” See, e.g., **O¹**, 62vb, 63ra; **Ba**, 141ra, 141vb; **Z**, 58rb, 58vb; **Ve**, XLIIIvb, XLIVrb.

3.3. *The Liber de Nativitatibus et Revolutionibus Earum*

Pietro's *Liber de nativitatibus et revolutionibus earum* (*De nativitatibus*), extant in at least 16 manuscript copies and one print edition,¹¹⁶ is a full Latin translation, with no additions or omissions, of *Sefer ha-Moladot* (the Book of Nativities),¹¹⁷ which survives in at least 53 Hebrew manuscripts.¹¹⁸ *De nativitatibus*, is the third entry, after *Principium sapientie* and *De rationibus*, in Pietro's Latin encyclopedia of Ibn Ezra's astrological writings.¹¹⁹ The double title of Pietro's translation (*de nativitatibus* 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,¹²⁰ and the system of continuous horoscopy in nativities.¹²¹

¹¹⁶ See, below, §4.

¹¹⁷ See, below, Appendix 1, III, first and last sentences.

¹¹⁸ *Abraham Ibn Ezra on Nativities and Continuous Horoscopy. A Parallel Hebrew English Critical Edition of the Book of Nativities and the Book of Revolution*, ed., trans. and annot. Shlomo SELA (Leiden: Brill, 2013) pp. 421-423. This edition is used for all quotations from or references to the Hebrew text and English translation of *Moladot* in the following format: *Moladot*, III vi 8:4, 152-153 = *Moladot*, part III, chapter vi, section 8, sentence 4 in *Abraham Ibn Ezra on Nativities and Continuous Horoscopy*, pp. 152-153.

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 *mo'zenei Hanok*, "Enoch's balance," a term first used in *Moladot* to designate the concept of "rectification of the nativity."¹²² 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 nativitatibus, 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 reperi, moram 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-

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. DOPPEL and Alessandra FOCATI (Turnhout: 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 nativitatibus*, which is substantiated by Pietro's acknowledgement of his reliance on Ibn Ezra.¹²³ A similar quotation of a passage from *De nativitatibus* occurs in Pietro's *Expositio problematum Aristotelis*.¹²⁴ 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.¹²⁵ This is one of the first explicit mentions of the "trutina Hermetis," but it is intriguing, because in the relevant passage of *De nativitatibus* 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 Nativitatibus*,¹²⁶ which also uses *trutina* to denote the concept of rectification of the nativity¹²⁷ and assigns to Hermes the method that takes account of the duration of pregnancy in order to "rectify" the nativity.¹²⁸ A scrutiny of the surviving manuscripts of one of the four versions of *Liber Abraham Iudei de Nativitatibus* reveals that it incorporates long verbatim excerpts from Pietro's *De nativitatibus*.¹²⁹ This supports the possibility that Pietro was the originator of this version of *Liber Abraham Iudei de Nativitatibus*.

¹²³ See: P¹, 98vb; cf. *Moladot*, II 7:8-9, 96-97; Ibn Ezra, *Moladot*, ed. and trans. SELA, II 7, 11, pp. 96-97. Cf. IBN EZRA, *Liber Abrahe Avenare de revolutionibus et nativitatibus*, p. XXVI⁴ 2, lines 8-12.

¹²⁴ See PIETRO D'ABANO, *Expositio Problematum Aristotelis* (Venice: arte hac impensa Joannis herbort Alemani, 1482), sig. R5vb: "Unde Abraham Hevenarre cuius libros ordinavi in Latinum ait in libro nativitatis sunt et aliqui commorantes usque ad decimum mensem quibus Mars dominatur egredienturque ex ventre eo quod Mars naturaliter multis movet motibus, isti tamen parum vivunt. Natum autem in undecimo mense quoniam tunc principatur Sol magis vivit;" cf. P¹, 98vb; *Moladot*, II 7:11-12, 96-97.

¹²⁵ See *Moladot*, II 7:1-12, 96-97.

¹²⁶ See, above, n. 3.

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

¹²⁸ See *Liber Abraham Iudei de Nativitatibus*, I 2:1; I 5:1-2 in *Abraham Ibn Ezra Latinus on Nativities*, pp. 250-253.

¹²⁹ See *Abraham Ibn Ezra Latinus on Nativities*, pp. 51-53 and 463-470.

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 naitivités*, 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:

Moladot, I 6:2, 86-87: כי אם היו שני נולדים ברגע אחד במדינה אחת והאחד בן משנה והשני בן משרת פורני, ויש בכח המולד לעלות למעלה גבוהה ולשררה עליונה, הנה בן המשנה ישוב מלך ובן המשרת יהיה סוחר.
 = If two children are born at the same moment in the same city, one of them the son of a viceroy and the other the son of a servant who tends an oven, and the nativity <of each> predicts (*lit.* the nativity has the

¹³⁰ In 1448, Ludovicus de Angulo produced a Latin version from an abridged Catalan translation of *Moladot*. The latter is ascribed to a certain Martin d'Osca; the Latin translation is preserved in Paris, BnF, lat. 7321, fols. 87ra-111rb; see: LEVY, *The Astrological Works of Abraham Ibn Ezra*, pp. 32-46, and David ROMANO, "Obras Astrológicas de Abraham Ibn Ezra en Catalan," in *Abraham Ibn Ezra y su Tiempo*, Fernando DÍAZ ESTEBAN (ed.), (Madrid: Asociación Española de Orientalistas, 1990) pp. 259-267.

¹³¹ See, above, n. 7.

¹³² See STEEL et al., *The Astrological Biography of a Medieval Philosopher*, pp. 88 and 269-270.

¹³³ See SELA, "The Ibn Ezra-Henry Bate Astrological Connection."

¹³⁴ F¹, 66rb-100va; F², 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 seneschal 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 seneschal 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 משנה*, “the son of a viceroy,” is converted into a “fieus de seneschal” 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) The *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 וששים ושש, ואם היה בתחלת קו יתד התהום, הנה המעמד מאתים ושמונים 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.

P¹, 98ra (Pietro): Siquidem Luna fuerit in principio alicuius angulorum debemus accipere distantiam sui loci a principio anguli, sicut est principium linee abisii, et tunc fuit mora 280 dies.

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 גבול, literally “border,” denoting “climate;”¹³⁶ כבוד, literally “honor,” denoting the exaltation of a planet;¹³⁷ or קלון, “shame” or “dishonor” (the antonym of כבוד) denoting the astrological concept of dejection.¹³⁸ *De nativitatibus* 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 מקום כרת, “place of cutting,” de-

¹³⁵ See *Moladot*, III I 2:4, 98-99 (חשב אפודת הגלגל); cf. **F¹**, 70vb (pourceint de l’ymagination du cercle); **P¹**, 99ra (cinctura 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 (כבוד); cf. **F¹**, 70vb (onnoir); **P¹**, 99ra (honor).

¹³⁸ See *Moladot*, III ii 3:6, 122-123 (קלון); cf. **F¹**, 78ra (honte); **P¹**, 101ra (dedecus) et passim.

¹³⁹ See *Moladot*, III I 2:1, 98-99 (כלי הנחושת); cf. **F¹**, 68va (vaussiau de couvre); **P¹**, 98ra (instrumentum cupreum).

Moladot, II 4:3-5, 92-93: על כן התברר לי כי אלו המאזנים הבל המה. גם הזכיר חכם הוודו שלשה מאזנים אחרים, ואת כולם ישא רוח. והאמת הם מאזני חנוך. = 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.

P¹, 98va (Pietro): Imo mihi manifestum est quod iste modus investigationis reprehensibilis est et nullus. Sapientum unus indorum alias equationes tres invenit, omnesque volitabunt vento. Vera enim est via et investigatio Hermetis.

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 ascendentis.”¹⁴⁴

(II) Another example bears on the talmudic term שָׁלִיל (M *Zevaḥim* 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-

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 מוצק, literally "solid, stable or strong," but used by him to denote "center."¹⁴⁶ This changes dramatically in *De nativitatibus*, 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: תחלת גבהותו בגלגלו הגדול שמוצקו = Beginning of its apogee on its great circle whose center is distant from the center of the Earth.

F¹, 78vb (Hagin): le commencement de la hautece en son cercle grant que son centre est loins du centre de la terre.

P¹, 101rb (Pietro): principium sue augis in suo ecentrico.

(b) *Moladot*, III vii 4:1, 160-161: קרוב ממקום גבהותו כנגד גלגל = Close to its apogee on the eccentric circle (*lit.* close to its apogee on the circle of the center).

F¹, 88vb (Hagin): pres du lieu de sa hautece et en contre le cercle du centre

P¹, 104ra (Pietro): propinquior loco sue augis respectu circuli ecentrici.

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

¹⁴⁵ See *Moladot*, II 7:3, 96-97 (שלייל); cf. F¹, 69vb (*salil*); P¹, 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-She’elot* (Book of Interrogations, henceforth *She’elot 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 *She’elot II*. One was carried out by Arnoul de Quincampoix;¹⁵¹

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 Hokmah*, §5.3:2, 184-185: עולה בגלגל הגבוה והשפלות שמוצקו רחוק ממוצק 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.

¹⁵⁰ *Abraham Ibn Ezra on Elections, Interrogations and Medical Astrology. A Parallel Hebrew English Critical Edition of the Book of Elections (3 Versions), the Book of Interrogations (3 versions) and the Book of the Luminaries*, ed., trans. and annot. Shlomo SELA (Leiden: Brill, 2011) p. 531. This edition is used for all quotations from or references to the Hebrew text and English translation of *She’elot II*, in the following format: *She’elot II*, §6.1:7, 368-369 = second version of *Sefer ha-She’elot*, chapter 6, section 1, sentence 72, in *Abraham Ibn Ezra on Elections, Interrogations and Medical Astrology*, pp. 368-369.

¹⁵¹ This translation is entitled *Liber de questionibus* and is found in Ghent, Universiteitsbibliotheek, 5 (416), fols. 85r-91v.

the other two are anonymous.¹⁵² In 1273, Bate commissioned Hagin le Juif to produce a French translation of *She'elot II –Le livre des interrogations–* which is extant in two manuscripts¹⁵³ Modern scholarship has paid scant attention to these five translations of *She'elot 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 Māshā'allāh in the introduction to *She'elot II*:

She'elot II, §9:1-3, 354-355: *אם רצית, לעולם הסתכל, מי שיש לו יותר לדעת על מה שאל השואל, אל הפקיד על הגלגל, והטעם מי שיש לו יותר ממשלה בחמשת השרים, והטעם במקומות שהם מקומות החיים.* = Māshā'allāh 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 tor iors au planete que a plus de dignete es.5. lieux 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.

Māshā'allāh 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 signicator.

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 *פקיד על הגלגל*, "lord of the orb," or to *חמשת השרים*, "five rulers," which are found in the Hebrew original; and that

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 **F**¹, 113va24-125ra23; **F**², 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* II, deals with whether a sick person will recover:

She’elot II, §6.1:2, 366-367: וככה אם היה בבית החמישי או בבית העשתי עשר, ואם היה בבית השמיני ימות, או אם היה בעל השמיני במזל . העולה כוכב טוב, יחיה, ואם רע, ימות. = 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’enneur, 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 הַשִּׁלִּיחַ, the “ruler,” Hagin and Pietro refer to “le seigneur de l’onneur” 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, LXIIIrb-LXIIIva.

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.¹⁵⁷ While in Pietro's *De interrogationibus* 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 *Le livre des interrogations*. The French parallel text in both manuscripts is separated from the *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 *Liber Interrogationum*, an anonymous Latin translation of the now almost completely lost third version of Ibn Ezra's of *Sefer ha-She'elot* (*She'elot* III).¹⁵⁸ In all likelihood, the Hebrew source of the interpolation and *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 *Liber Interrogationum* in facing columns.¹⁵⁹

3.5. *The Liber de Electionibus*

Pietro's *Liber de electionibus*, extant in at least nine manuscripts and one print edition,¹⁶⁰ is a full Latin translation of the second version of Ibn Ezra's *Sefer ha-Mivḥarim* (Book of Elections, henceforth

¹⁵⁷ See F¹, 125ra-125va; F², 123va-123vb.

¹⁵⁸ See *Liber Interrogationum*, Amplon. O.89, fol. 25v; ÖNB, Cod. 5442, fol. 183rb-183va.

¹⁵⁹ See, below, Appendix 2.

¹⁶⁰ See, below, §4.

Mivḥarim II),¹⁶¹ which survives in at least 28 Hebrew manuscripts.¹⁶² *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-She'elot/De interrogationibus*, we know of three other Latin translations of *Mivḥarim II*: one by Arnoul de Quincampoix¹⁶³ and two that are anonymous.¹⁶⁴ 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*.¹⁶⁵ 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: ועוד, יש לך להשמר בכל מבחר שתבחר = In addition, שלא תהיה הלבנה עם כוכב רע עם מעלה דבקה כנגד קו הצדק.

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-11va

¹⁶⁵ **F**¹, 109ra-113va; **F**², 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).

F¹, 110va (Hagin): Et tu dois garder en toute chose que tu eslivis que ne soit la lune avec estoile male aiouste en contre l'ecliptique.

V¹, 43va (Pietro): Et debes inspicere in omni electione quam facis ne sit Luna iuncta 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,¹⁶⁶ 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 *aiouste*. Pietro followed suit and translated *iuncta*. (3) Hagin misinterpreted Ibn Ezra's כנגד, “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:

Mivḥarim II, §2.1-2, 144-145: שתדע מולד, והיא הנכונה, ותדע יתדות מזל 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

¹⁶⁶ In his *Sefer ha-'Ibbur* (Book of Intercalation), a treatise on the Jewish calendar, Ibn Ezra writes: מקום מחברת הגלגלים הגבוהים, הוא הנקרא קו 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*: תחלת טלה, שהוא קו הצדק = “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 יתדות מזלר, "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 בשעת המבחר, "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 *Mivharim* II, about finding the time when some event will occur:

Mivharim II, §11.1.1, §11.2.3, 174-175: אם בקשת לסחור, שים בעל זה הבית בבית זה, ויסתכל ממבט טוב לבעל הצומחת. = If you are seeking <an election> for engaging in trade, put the lord of this place in this place ... If <you seek> the amity of an elder [i.e., a councilor], put Saturn in this place so that it [Saturn] forms a fortunate aspect with the lord of the ascendant.

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

V¹, 45rb (Pietro): Si volueris mercari pone dominum.11e. in.11a. domo ... 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.¹⁶⁷ 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*.¹⁶⁸ I call this an “addition” because it does not occur in the Hebrew original of the critical edition of *Mivharim* II or in any other Hebrew manuscript of *Mivharim* II that I have checked. Nor is it found in one of the two anonymous Latin translations of *Mivharim* II or in Arnoul de Quincampoix’s Latin translation of this work. However, it does occur in the other anonymous Latin translation of *Mivharim* II.¹⁶⁹

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.¹⁷⁰ 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 *Mivharim* II, which was used by Hagin as well as by one of the two

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

¹⁶⁸ See, e.g., **V**¹, 44ra:38-44rb:2; **Ve**, LXVIIIvb-LXIXra.

¹⁶⁹ See Digby 212, fols 66ra-66rb.

¹⁷⁰ See **F**¹, 112 rb:1-112va:1; **F**², 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.¹⁷¹

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'orot*,¹⁷³ which survives in at least 35 Hebrew manuscripts.¹⁷⁴ *Me'orot* 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'orot* 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'orot* 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'orot*, 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

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'orot*, in the following format: *Me'orot*, §9:1, 460-461 = *Sefer ha-Me'orot*, section 9, sentence 1, in *Abraham Ibn Ezra on Elections, Interrogations and Medical Astrology*, pp. 460-461.

¹⁷⁵ *Me'orot*, §1:1-11, 452-455 through §3:1-2, 454-455.

¹⁷⁶ *Me'orot*, §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.

¹⁷⁸ See **Z**, 79va; cf. *Me'orot*, §7:2-3, 458-459.

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 *Me'orot*. One, *De luminaribus seu de diebus creticis*, 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 Ezra Israelite*, is extant in one manuscript.¹⁸² So far no French translation of *Me'orot* 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 *Me'orot* 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.

Me'orot, §33:3,5, 478-481: ודע כי הכוכבים שהם בגלגל השמיני הם גבוהים... כעין השור ולב אריה ולב עקרב. = 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

sit a complexione alterius alia diminutione vel augmento. Non enim possunt particulariter duo homines inveniri equales in suis complexionibus operationibus et cogitationibus.”

¹⁸⁰ See Shlomo SELA, “The Ibn Ezra – Henry Bate Astrological Connection,” p.168.

¹⁸¹ See Shlomo SELA, “The Abraham Ibn Ezra-Peter of Limoges Astrological-Exegetical Connection,” pp.15-20.

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: ואם הלבנה עם מחברת שבתי וצדק ונגה, יועיל מעט... ואם על מבט שלישית, יציל, ואם על מבט ששית, יחסר מהרע רק לא יציל. ומבטי השמש כולם ללבנה טובים, רק אם היה המבט של הנכח בדלי או במאזנים, אז יחסר מהטוב, והמחברת רעה מכל המחברות. = 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 cum preventione Saturni et Iovis proderit, non tamen salvabitur omnino ... quod si fuerit in aspectu 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 opposito Saturni et Jovis istud valebit et tunc infirmus non evadet ... Et si ipsi fuerit in aspectu trini infirmus protegetur et in aspectu sextilis deficiet de malo tunc infirmus non protegetur. [*desunt*] Et si luna est iuncta 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 planet¹⁸³ and the magnitude of a fixed star;¹⁸⁴ or *centrum* for מוצק.¹⁸⁵ 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*.¹⁸⁶ Another example is Ibn Ezra's use of משרתים "servants," to denote "planets." This term is found throughout

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 מַבְטֵי הַכּוֹכָבִים הַמְשֵׂרֵתִים, literally "the aspects of the servant stars" but denoting "the planets' aspects, rendered *aspectus stellarum servientium*,¹⁸⁷ thereby translating הַמְשֵׂרֵתִים 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,¹⁸⁸ 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,¹⁸⁹ which also contains translations of *She' elot* II and *Mivharim* 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.¹⁹⁰ 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.¹⁹¹

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.¹⁹² 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-

¹⁸⁷ See Ve, LXXIIrb; cf. *Me'orot*, §6:1, 458-459.

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.

¹⁹² Shlomo SELA, "What is *Tractatus Particulares*, a Four-Part Work Assigned to Abraham Ibn Ezra? A Study of its Sources and General Features," *Archives d'histoire doctrinale et littéraire du Moyen Âge* (forthcoming).

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 *Mishpetei 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-Māshā'allāh*, "Book of interrogations by Māshā'allāh," a popular Hebrew translation of the Arabic *Book of interrogations* by Māshā'allāh;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-LXXXVIIIra, line 1; cf. *Mishpetei 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 LXXXVIra, line 9; cf. *She'elot le-Māshā'allāh*, Oxford, Bodleian, Opp. Add. Qu. 160, fols. 154r line 17-154v line 23; **Ve**, LXXXVIva, line 44-LXXXVIIra, line 14; cf. *She'elot le-Māshā'allāh*, 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 significatione 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 Māshā'allāh 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 particulares*. 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.

¹⁹⁷ **Ve**, LXXXVIra, lines 11-24; cf. David JUSTE, *Les Alchandreana primitifs. Etude sur les plus anciens traités astrologiques latins d'origine arabe (X^e siècle)* (Leiden and Boston: Brill, 2007) p. 474.

¹⁹⁸ **Ve**, sig. LXXXIXvb, lines 4-28; cf. Paris, BnF, lat. 16204, pp. 428b-432b.

¹⁹⁹ **Ve**, XCIrb, line 32-XCIVb, 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.

Manuscripts and print editions	<i>Reshit Hokhmah</i>	<i>Te'amin II</i>	<i>Moladot</i>	<i>She'elot II</i>	<i>Mivharim II</i>	<i>Me'orot</i>	TP
Paris, BS, 640, 13 th -14 th c.	76rb-95r		97v-106v				
Erfurt, UFB, Amplon. Q. 223, 14 th c.	13r-60r						
Oxford, BL, Digby 212, 14 th c.	34ra-48rb	56ra-63ra		63r-64r			53ra-56rb
Munich, BSB, Clm 826, 14 th c.	11va-27rc						
Melbourne, SLV, RARES 091 P95A, 14 th c.	192va-193vb						
Oxford, BL, Ashmole 369, 14 th c.							14r-17v
Vienna, ÖNB, Cod. 5335, 14 th -15 th c.	1ra-20vb	20vb-28vb	28v-39r	39r-43r	43r-45v	46v-49r	54v-58v
Naples, BSOG, 15.11, 14 th -15 th c.	142ra-153ra		153ra-161vb	162ra-165va	165va-167vb		172vb-176rb
Klagenfurt, ADG-BM, XXX b 7, 15 th c.	159v-170v	170v-180r	180r-191v	191v-196r	196r-198v	200r-202v	209r-213r

Manuscripts and print editions	<i>Reshit Hokhmah</i>	<i>Te'amin II</i>	<i>Moladot</i>	<i>She'elot II</i>	<i>Mivharim II</i>	<i>Me'orot</i>	TP
Oxford, BL, Canon. Misc. 190, 15 th c.	1r-26r	27r-35r	36r-49r	110r-143v	53v-57r	59r-63v	72v-77r
Paris, BnF, lat. 7336, 15 th c.	21r-52r	52r-64r	64r-79v	79v-86r	86v-91r	93v-98v	109r-116v
Paris, BnF, lat. 7438, 15 th c.	1r-63v	63v-86v	87r-120r	118r-130r	130r-138v	142v-151r	168v-180v
Paris, BnF, lat. 10269, 15 th c.	1ra-38va	39ra-52va	54ra-74rb	74va-82fb	82va-87vb	111ra-116ra	102fb-110vb
Vienna, ÖNB, Cod. 5309, 15 th c.	187r-215v	216ra-22rb	228r-241r	241r-246v	247r-250v	252v-256r	264r-269v
Zurich, ZB, B.244 (769), 15 th c.	24ra-44vb	50vb-58rb	58a-69rb	69va-74va	74va-76rb	77vb-80va	87ra-92rb
Basel, UB, F.II.10, 15 th c.	91ra-121ra	131ra-141vb	149va-162rb	125va-130va			121ra-125va
Vienna, ÖNB, Cod. 3124, 15 th c.			129r-139v	193ra-196ra			196rb-198ra
Milan, BA, D.331 inf., 15 th c.	1ra-18ra		18ra-30vb				
Limoges, BM, 9 (28), 15 th c.	84v-115v						

Manuscripts and print editions	<i>Reshit Hokhmah</i>	<i>Te'amin II</i>	<i>Moladot</i>	<i>She'elot II</i>	<i>Mivharim II</i>	<i>Me'orot</i>	TP
Berlin, SBPK, lat. F. 54 (964), 15 th c.			193rb-194rb				
Cracow, BJ, 601, 15 th c.	124r-149r						
Dublin, TC, 368, 15 th c.							37r-40v
Klagenfurt, ADG-BM, XXIX e 12, 15 th c.						116v-118v	
Oxford, BL, Canon. Misc. 517, 15 th c.							33ra-35ra
Brno, MZK, A 64, 15 th c.			112r-132r				
Vienna, ÖNB, Cod. 10534, 16 th c.							186v-187r
Gloucester, CL 15, 16 th c.			39va-43rb				123ra-123vb
Venice, ed. Petrus Liechtenstein, 1507	IIra-XXXIVb	XXXIIra- XLIIIrb	XLIIIva- LXva	LXvb- LXVIIra	LXVIIrb- LXXIrb	LXXIva- LXXvb	LXXX- Vrb- XCIVb

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 sapientie*, 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 sapientie*, *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

²⁰¹ The only exception to this rule is *De mundo vel seculo*, Bate's Latin translation of 'Olam 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)²⁰² 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

²⁰² 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 Ma'shar'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>." ²⁰³

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."

²⁰³ Marie-Thérèse D'ALVERNY, "Pietro d'Abano, traducteur de Galien," *Medioevo* 11 (1985) pp. 19-64: 32; reprinted as essay XIII in *La transmission des textes philosophiques et scientifiques au Moyen Age*, ed. Charles BURNETT (Aldershot and Brookfield: Variorum, 1994). I am grateful to one of the anonymous reviewers for directing me to this locus.

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.

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APPENDIX 1

Incipits and Explicits, 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 Hokhmah*, §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 Hokhmah*, §10.3:7, 270-271: ונהוג הגורלות הפך, המזלות, כאשר הזכיר בטלמיוס בספר הפרי. והנה נשלם העשרה שערים, = The direction of the lots is the opposite of the

<direction> 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: *Te'amim* II, §1:1, 182-183: הנה נא הואלתי לשום מוסד . לספר ראשית חכמה. = 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: *Te'amim* II, §8.7:11, 254-257: גם הקדמונים מחכמי הודו אמרו שאין כח לאחד מהם, רק אם יהיה בתחלת אחד היתדות או השמש ביום והלבנה בלילה. = 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: P⁴, 54ra: Explicit *Liber de Nativitatibus et Revolutionibus Earum* quem Petrus Paduanus ordinavit in latinum ex hebraico in ydeoma 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: כל משכיל : אמר אברהם הספרדי: בחכמת משפטי המזלות ואיננו יודע מהחכמה העליונה יש פעמים 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.

P¹, 97vb (Pietro): Inquit magister Abraham: sapiens et astutus quod omnis sapiens qui se inmiscet 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 = 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.

P¹, 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 Avenarre 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 Avenarre 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: ראשי חכמי המזלות היו = There have שנים, האחד תלמי והשני דורוניוס, ושניהם היו מלכים.

been two leading astrologers: one of them Ptolemy and the other Dorotheus; 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: גם רבים יסתכלו במספר והם לעולם כמספר שנותיו הקטנות. = 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 cuiuslibet planete qui omnes sunt, sicut est numerus annorum minimorum ipsorum.

V. *Liber de eleccionibus*

Incipit: P⁴, 82va: Incipit *Liber* Abrahe Avenesre Judei *de Electionibus* cuius capitulum primus est universale in doctrina electionum et est prohemiale. = 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 *Liber* Abrahe Avenesre Hebrei *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: חכמי התורה מודים כי יש יכולת באדם לעשות טוב גם רע. ומשה אדוננו אמר מפורש: ובחרת בחיים, ולולי זה לא היה אדם נענש. = 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 hominum perfecte habere potestatem in faciendo bonum et malum, et Moyses magister noster dixit plane hoc quidem est scire, et super istud est via quod si hoc non fuisset non esset damnatus homo.

Mivharim II, §12.1:5, 176-177: ולקנות גמל תקן מקום נגה, ולקנות חיה, ולקנות גמל תקן מקום צדק. ככה אמרו הקדמונים. = 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*

Incipit: P⁴, 111ra: Incipit *Liber Abrahe Avenasre Judei de Cognitione Cause Crisis et Diei Cretici et de Luminaribus*. = Here begins the *Book on the Knowledge of the Cause of the Crises and the Critical Days and of the Luminaries* by Abraham Ibn Ezra the Jew.

Explicit: P⁴, 116ra: Explicit *Liber Abrahe Avenasre Iudei de luminaribus et Cresi* quem Petrus Paduanus in Latinum transtulit. = This ends the *Book of the Luminaries and Crises* by Abraham Ibn Ezra the Jew, which Peter of Padua translated into Latin.

First sentence: *Me'orot*, §1:1, 452-453: מפיל אני תחנתי לפני אלהי . 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.

V¹, 46vb: (Pietro) Ego facio cadere deprecationem mean ante Deum meum dum anima mea in me existit, ut mittat suam lucem ac veritatem in cor meum.

Last sentence: *Me'orot*, §35:6, 482-483: . וכך 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 quorundam *Tractatum 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*)

<p>Pietro's <i>De interrogationibus</i> V¹, 40vb:27-41ra:6 Ve, LXIIIrb-LXIIIva</p>	<p>Hagin's <i>Le livre des interrogations</i> F¹, 125ra-125va F², 123va-123vb</p>	<p>Ibn Ezra's <i>Liber Interrogationum</i> Erfurt, MS Amplon. O.89, fol. 25v Vienna, ÖN, Cod. 5442, fol. 183rb-183va</p>
<p>Videas vim planetarum si ipsi fuerint supra terram sicut planete diurni, et e contrario est in planetis nocturnis, et associa rei significationis dominum triplicitatis prime et dominum hore.</p>	<p>Sur le livrer des questions, sur la.6. meson. Oi (?) la force des planetes se eus desus comme les estoiles du ior, et le rebors es estoiles de la nuit, et acompagne en la chose du demoustrant de seigner de la triplicite premiere et le seigneur de l'eure.</p>	<p>Dixerunt Antiqui: respice fortitudinem planetarum, si ipsi in altum et fuerit stella diurna et e contrario in planeta qui est stella nocturna, rursus associa in hac re significatorem, quia habet magnam fortitudinem in hac re. Et dicit Doronius quod associas semper cum domino ascendentis a significatore dominum triplicitatis prime in ascendente, quia ipse habet fortitudinem magnam</p>
<p>Et si plures.4or. fuerint infortunati in domo.6a. vel.12a. aut.8a. aut domini eorum domus, morietur eger. Et itidem malus eorum aspectus cum significatione est per se malum signum.</p>	<p>Et s'ele plus de.4. sont domachie en la meson.6e. our.12. ou.8e. ou se les seigneurs de leur mesons morira le malade. Jerres leur regart mal au demoustrant per li en signe male.</p>	<p>Et Mesehala dicit: item associa cum illis.3. significatoribus dominum hore, et non iudices quod morietur nisi postquam conungetur illi.4. vel.3. vel.2., si fuerint multum fortes.</p>

<p>Pietro's <i>De interrogationibus</i> V¹, 40vb:27-41ra:6 Ve, LXIIIrb-LXIIIva</p>	<p>Hagin's <i>Le livre des interrogations</i> F¹, 125ra-125va F², 123va-123vb</p>	<p>Ibn Ezra's <i>Liber Interrogationum</i> Erfurt, MS Amplon. O.89, fol. 25v Vienna, ÖN, Cod. 5442, fol. 183rb-183va</p>
<p>Et similiter si dominus.8e. et.6e. die mortis, quando fuerit dominus ascendentis in uno angulorum aut in fine.</p>	<p>Et ausi le seigneur de la.8. et la.6. le iour de la mort quant est li sires de l'ascendnat en.1. des angles ou en la fin.</p>	<p>Et iudicabis quod morietur homo si fuerit dominus ascendentis in.6a. vel.8a. vel in.12., vel quod dampnificet se vel in aspiciendo vel in coniungendo se cum aliquo dominorum ipsarum.3^m. domorum.</p>
<p>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.</p>	<p>Et se le seigneur se la.8e. out qumat il sa iouste ou quant il atenit au lieu du seigneur de la.8. meson, et si sera le demonstrant.1. li sires de l'ascendant et non iluec regard ameine a sou regard le signe second.</p>	<p>Et dominus.8e. domus, si in ascendente fuerit, significat malum, sive fuerit stella bona sive mala.</p>
<p>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 fortiores. Et si prostraverit se in locum morietur 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>	<p>Et garde se il est princes de la premiere ou en la.4. morra. Et se le prince de la vie en la.4. en bon lieu garrira. Et si se sont iluec bones et males iuge selonc le plus fort. Et se il est cheus au lit it 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.2. cors sera garis en termine moyen et istra de maladie a maladie autre selonc le regard de la lune as planetes.</p>	<p>Et scias quod infirmitas prolongabitur si fuerit significator tardus in suo cursu et similiter si dominus ascendentis vel prepositus scilicet fuerit tardi vel quod fuerit 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.</p>

<p>Pietro's <i>De interrogationibus</i> V¹, 40vb:27-41ra:6 Ve, LXIIIrb-LXIIIva</p>	<p>Si domus ascendentis aut significator deriderit vim domino.6. vel.8e. aut coniungatur planete in domo.4.^a. morietur infirmus quoniam hec est domus fovee. Et si significator fuerit in.10. et augetur lumen eius alleviabitur morbus quoniam est velox. Si luna fuerit significator sitque in signo.60. febris ipsius levis erit. Quod si fuerit planeta melancolie ventum habet in ventre ex colera rubea propter humiditatem accidentium aut inflatione.</p>	<p>Hagin's <i>Le livre des interrogations</i> F¹, 125ra-125va F², 123va-123vb</p>	<p>Se le seigneur ou le demonstant done force ou conionit a estoile en meson.4e. morra li malades car ce est la meson de la fosse et se le demonstrant en la.10e. et sa clarte atroist alegera la maladie car ele est hasitive. Se la lune demonstrant et ele est ou signe.6e. lieve fievre ali et se c'est estoile de la melancolie il a vent en ventre de cole ruge per la moisteur des aventures ou l'enfleure. Explicit deu gratias.</p>	<p>Ibn Ezra's <i>Liber Interrogationum</i> Erfurt, MS Amplon. O.89, fol. 25v Vienna, ÖN, Cod. 5442, fol. 183rb-183va</p>	<p>Et ita iudicaverunt Antiqui, et ego Abraham temptavi multotiens quod si fuerit dominus ascendentis dans fortitudinem aut coniungatur cum stella in.4a., morietur infirmus quia ipsa est domus fovee. Et si significator in.4a. et sit accrescens Lune, alleviabitur a malo quia festina est ipsa.</p>
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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*

<p>V¹, 44ra:38-44rb:2 V^e, LXVIIIvb-LXIXra</p>	<p>F¹, 112 rb:1-112va:1 F², 105rb:31-105va:30</p>
<p>Sapientes omnes consenserunt quod ille qui mare ingreditur Saturni hora debet submergi, nisi secum Iupiter extiterit, aut in aspectu bono angulorum unius.</p>	<p>Tout li sage octroierent que c'i li qui va en mer en l'heure de Saturne doit a fonder fors que si est Iupiter avec li ou en regart bon de un des angles.</p>
<p>Et cave ne ingrediaris iter aquaticum sub signo igneo quoniam.8a. que domus est mortis signum est aqueum.</p>	<p>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.</p>
<p>Et melius est cum fuerit aliquid eorum ascendens.</p>	<p>Et mellieur quant sera un d'eus ascendant.</p>
<p>Quod si posueris Cancrum et non aspiciat Luna ipsum bono aspectu aspectus Iovis est bonus, pone aspectum bonum et dominum.3e. in aspectu fortune et non sit malus in eius domo neque aspectus malus secum.</p>	<p>Et se tu prens Cancre et non a la Lune bon regart a li regart de Iupiter est bon, met le regart de la.3e. en regart d'estoile bone et ne soit estoile male en sa meson ne en regart mal avec li.</p>
<p>Et similiter ascendens 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 ascendentis.</p>	<p>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'heure sa force en totes choses comme la force de l'ascendant.</p>
<p>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.</p>	<p>Et garde que ne soit la Lune en Poissons en voie de mer fors que si fu avec Iupiter ou Venus ou donant force a un d'eus qui est en lieu bon ou en bon regart du soleil.</p>
<p>Et similiter si quesiveris preliari in mari.</p>	<p>Et ausi se tu qers abateillier en mer.</p>

