Gerard of Cremona was the most prolific translator of scientific and philosophical works from Arabic in the Middle Ages. He also has been credited with a few “original” works in the same fields, although these attributions are less certain. Through their abundance, subject matter, and quality, Gerard’s translations made a decisive contribution to the growth of medieval Latin science. The impact of his work was felt well into the early modern period.

Life. Although Gerard’s birth in Cremona is virtually certain, the site of his death continues to be disputed between Toledo, where he worked for the major part of his life, and Cremona, where C. A. Nallino, as recently as 1932 (followed by George Sarton), argued that he died. The dispute turns on two bits of evidence. The first, apparently contemporary, is a short eulogy inserted in manuscripts after the list of Gerard’s translations compiled by his companions shortly after his death. In this eulogy the last distich runs as follows:

Hunc sine consimili genuisse Cremona superbì Toleti vixit, Toletum reddidit astris.\(^2\)

Nallino argues that the final clause merely implies that Gerard, by his works, “extolled Toledo to the stars.” This interpretation, however, forces inadmissible syntactical contortions upon the distich, which is of parallel construction. Toletum, like Cremona, is a nominative and the grammatical subject of the clause it introduces. Hence, the meaning of “Toletum reddidit astris” must be that the city of Toledo returned this illustrious man to the stars.

The second piece of evidence is a statement, dating from more than a century after Gerard’s death, by the Italian chronicler Franciscus Pipinus,\(^3\) a Dominican friar who wrote about 1300 and died in 1316. Pipinus asserted that Gerard was buried in the convent of Santa Lucia in Cremona, to which he had bequeathed his library. The sources invoked by the eighteenth-century scholar Francisco Arisi in his Cremona literata (1702)\(^4\) testify that in his time there was absolutely no trace of Gerard’s library in Cremona. Taking into consideration the eulogy and the fact that Pipinus never stated that Gerard actually died in Cremona, a plausible supposition would be that Gerard’s body was returned to Cremona from Toledo to be reinterred, and that some kind of arrangement concerning his estate benefited a monastery in his native Cremona.

For further details concerning Gerard’s life, as well as his activity as a translator in Toledo, the interpretation of manuscript evidence remains grossomodo where it was left by B. Boncompagni (1851) and F. Wüstenfeld (1877).\(^5\) The principal evidence is a document in three parts, found inserted at the end of some copies of Gerard’s translation of Galen’s Tegni with the commentary of `Ali ibn Rid wan. This document contains a short biography, a list of seventy-one works translated by Gerard, and the eulogy. An additional piece of evidence, important for the insight it provides into Gerard’s intellectual interests and his way of life in Toledo, was added to the dossier by V. Rose in 1874. In his Philosophia, the English scholar Daniel of Morley, who traveled to France and Spain in the late twelfth century, gives a detailed account of his lively encounter in Toledo with Gerard (whom, incidentally, he calls Gerard of Toledo) while attending Gerard’s public lectures on Abū Ma’shar’s Great Introduction to the Science of Astrology.\(^2\)

Traditional interpretation has attributed all three parts of the biobibliography to Gerard’s companions (socii) in Toledo. Although the bibliography may confidently be attributed to the socii, as the biography states,\(^6\) there is evidence internal to the vita that intimates it was not drafted by the companions. Furthermore, the bibliography contains certain inferences in its manuscript transmission to suggest that at one time it existed independently. When it is accompanied by the biography, the link between the two is marked by a vero inserted in the title of the list (“Haec vero sunt nomina librorum quos translatit”); this vero is absent from the title when the list appears independently, as in Oxford, MS All Souls 68, fol. 109,\(^7\) and also in the labeling of the several partial lists, such as Ashmole 357, fol. 57v. But it is mostly the wording of the biography that raises doubts. It speaks of the authors of the list in the third person and in the past tense (per socios ipsius diligentissime fuerunt connumerata), and indicates the place in the corpus of Gerard’s writings where this list has been appended: the end of Galen’s Tegni, the last of his translations (novissime ab eo translati). In the original list without the biography, it should have been obvious where the list had been appended, without a need to specify it. The precision given by the biography sounds like the justification for having moved it from its original place, and the mention of Galen’s Tegni reinforces this impression. Later, the vita recalls that it was the love of the Almagest, which he knew was not available in Latin, that led Gerard to Toledo (Toletum perexit): “there [ubi], seeing the abundance of books in Arabic on every subject… he learned the Arabic language, in order to be able to translate… .” Also at the end of the vita and introducing the list of translations is the statement “These are the titles of the books translated by Master Gerard at Toledo.”
These two citations indicate that the *vita* probably was not written in Toledo but more likely in Cremona, where Pipinus found it and transcribed portions of it in the late thirteenth century. This assessment clarifies the apparently contradictory passage at the beginning of the biography that praises the value of fame and simultaneously depicts Gerard as so humble that he refrained from signing his translations. Certainly this pompous exordium did not originate with the *socii*, who knew Gerard better. According to the discussion with Gerard reported by Daniel of Morley, Gerard was far from humble: “Ego qui loquor rex sum... Cum vero ironice interrogarem ubi regnaret, respondit. In animo, quia nemini mortuam servirem.” In describing the translations, the *vita* characterizes the list as complete (*cuncta opera ab eo translate*) and summarizes it by following *ad litteram* the categories mentioned in the *vita* at the opening of each group. This procedure suggests imitation and exaggeration. The eulogy is so closely patterned on the *vita* that the variants offered by the manuscripts of the eulogy can be selected from the *vita*. Of the two readings, *spirituali* and *spiritualis*, offered by the manuscripts in the third line of the eulogy Wüstenfeld chose the wrong one, *spirituali*. The *vita* was stating clearly: *Carnis desideris inimicando soles spiritualibus adhaerebat*. In Wüstenfeld, the corresponding line in the eulogy reads *Voto carnali futi hostis spiritualis [applaudens ...]*, where *spirituali* *applaudens* is obviously the correct reading.

Both textual and biographical clues reinforce the conviction that the *vita* could not have been written by Gerard’s associates. This conclusion rests primarily on the absence of Gerard’s signature to his translations and on the depiction in the *vita* of Gerard’s activity in Toledo. In both cases, the *socii*, appear to be denying themselves credit they might legitimately claim in the choice and work of the translations. A simple listing of the translations, probably included in the original document before the biographer’s intervention, would not be subject to these difficulties of interpretation.

The date of Gerard’s move from Italy to Toledo and the number of years he devoted to translations also are uncertain. The *vita* stresses that Gerard completed his education in the schools of the Latins before going to Toledo, but it also implies that he moved there very shortly afterward. Since there is no evidence that Gerard devoted to theology the many years necessary for a degree, one may estimate that his stay in the Western schools lasted until he was twenty-five or, at most, thirty years old. Thus, he must have reached Toledo by 1144 at the latest. This would give him some forty-three years of activity in Toledo—a reasonable estimate that also renders his enormous output more credible.

The only later date in his life that hitherto has been taken for granted is the year 1175, in which he was thought to have completed the translation of Ptolemy’s *Almagest*. But this date seems suspect: he would have taken more than thirty years to complete the translation of the work for which he had moved from his native country, despite the help he received with this translation from the Mozarab Galib (Galippus Mixtarabe). The date of 1175 is attested only for the transcription made at Toledo by Thaddeus of Hungary (one of Gerard’s *socii*?) of the text of the *Almagest*; it does not follow that Gerard completed it then. On the contrary, as V. Rose has observed, the use of native Spaniards as collaborators with foreign translators such as Gerard appears to have usually been limited in scope and duration. At any rate, Galib is never named as a collaborator on any other of Gerard’s translations; and the assumption that translators usually worked in pairs is an undue extrapolation from the very scanty occurrences. Rather than assume, as is easily done, that all translators worked in collaboration, the truth appears to be that the case was special and remarkable enough to be noted whenever it occurred. At any rate, in the case of Gerard, only Galib is mentioned as having collaborated on the *Almagest*: and the list drawn up by Gerard’s associates makes no mention whatsoever of their direct collaboration in any translation.

What can these associates have been doing, if not helping in the translation? Several answers are possible without having to renounce the conviction that Gerard worked alone most of the time on all the translations ascribed to him (except the *Almagest*). The associates may have been engaged in tracing the many original copies of the Arabic texts to be used by Gerard. Ibn Ḥabdūn of Seville’s early twelfth-century treatise of *ḥisba* (translated by E. Lévi-Provençal) relates that a Muslim supervisor of the market in Andalusia was asked to forbid “the selling of Arabic books of science to the Christians” because the Christian translators allegedly attributed these works “to their bishops.” This prohibition may not have been strictly enforced in Toledo; but surely, given the enormous number and scope of scientific works translated by Gerard, it is easy to imagine the tremendous task of assembling these works and their relevant sources. Gerard may have assigned this task to some of his associates; others may have been employed as editors, “proofreaders,” or mere scribes, as Thaddeus of Hungary, mentioned above in relation to the *Almagest*, may have been.

**Characteristics and Method of Gerard’s Translations.** Very few definitive characteristics have been isolated, despite the laudable attempts of a few scholars. The difficulty lies in determining the proper method to be used in the search for identifying characteristics of style. We propose here a new method based on the close examination of one set of translations in Gerard’s list and of some others that may be appended, despite their absence from the list. A provisional compilation of such new versions would include, without being exhaustive, the following translations (the number in square brackets is that on Wüstenfeld’s list):

1 [1]. Aristotle, *Posterior Analytics* (James of Venice; “Io[annes]”)

2 [4]. Euclid, *Elements* (Adelard of Bath; Hermann of Carinthia[?])

3 [5]. Theodosius of Bithynia, *Spherica* (Plato of Tivoli [?]; Robert of Chester[?])

4 [6]. Archimedes, *De mensura circuli* (Plato of Tivoli)
Gerard’s Translations and Works. Although the list drawn up by Gerard’s socii has often been proved absolutely reliable with respect to the items it contains, it cannot be considered exhaustive. Modern scholarship concurs in this view, and a strong need has been felt to add to, rather than subtract from, the list.

Although Sarton’s list in his Introduction to the History of Science (II, 339-344) may serve some purpose for its bibliographical information, it has the great inconvenience of rearranging the order of subject matter as well as the numbering from the socii list given by Wiistenfeld, which it seems preferable to preserve for clarity and historical accuracy. Sarton’s aim appears to have been to separate “classical” (Greek) authors and works in science and philosophy from Arabic commentaries on Greek and Arab authors in the same fields. The distinction is of questionable scholarly value, since the Arab authors depended heavily upon their Greek models, adding much commentary of their own. Moreover, Sarton thus provided an unwarranted basis for the mistaken historical notion (too easily adopted by users of the list, if not by Sarton himself) that the twelfth-century translations helped Western scholars to recover Greek science in its original form.

The interplay between Greek science and Arab scholarship is an important historical factor and should not be underemphasized. Gerard’s transmission of this heritage to the West had an exclusively Arab garb. The form of Gerard’s translations thus resembles that of John of Seville: retaining what seemed to him passable and simultaneously reducing the lexical usage to a standard one, substituting generatio for effectus or constitutio (Arabic kawn) and corruptió or destructio (Arabic fasād). Moreover, he restored all passages and constructions omitted in the earlier translation, often altering its vocabulary to make it better suited to Latin scientific usage. In this process of trial and practice, Gerard showed an increasing preference for the manner of John of Seville, from whom Gerard adopted many characteristic expressions. For example, in al-Farghānī’s work, Gerard restored the chapter on comparative eras omitted by John, who had already treated this subject in another work. But in al-Fārābī’s De scientiis already translated by Gundissalinus, noting Gundissalinus’ ruthless editing, Gerard completely restored the original and transformed Gundissalinus’ Latin vocabulary. The form of Gerard’s translations thus resembles that of John of Seville: closeness to the Arabic original, preservation as far as possible of the construction of the Arabic sentences, and scrupulous rendering of every word contained in the Arabic. Undoubtedly, much of Gerard’s knowledge of Arabic was acquired through working with the older translations, which directed him ultimately to the adoption of the word-for-word method of John of Seville.

The above list includes revisions of translations by earlier scholars and by others contemporary with Gerard in northern Spain. The unpublished The manuscript tradition of Abū Ma’shar’s still unpublished Greater Introduction reveals a revision—sometimes extensive, occasionally sporadic or nearly absent—that exhibits identifying characteristics observable in some of Gerard’s other reworkings. On the other hand, Daniel of Morley provides testimony that Gerard delivered public lectures in Toledo on this very text. It had been translated in 1133 by John of Seville, whose approach to translation Gerard adopted.

A close examination of three of these reworkings through comparison with the Arabic original and with the earlier Latin translation sheds light on Gerard’s strategy. He appears to have weighed the earlier Latin translation against the Arabic, retaining what seemed to him passable and simultaneously reducing the lexical usage to a standard one, substituting generatio for effectus or constitutio (Arabic kawn) and corruptió or destructio (Arabic fasād). Moreover, he restored all passages and constructions omitted in the earlier translation, often altering its vocabulary to make it better suited to Latin scientific usage. In this process of trial and practice, Gerard showed an increasing preference for the manner of John of Seville, from whom Gerard adopted many characteristic expressions. For example, in al-Farghānī’s work, Gerard restored the chapter on comparative eras omitted by John, who had already treated this subject in another work. But in al-Fārābī’s De scientiis already translated by Gundissalinus, noting Gundissalinus’ ruthless editing, Gerard completely restored the original and transformed Gundissalinus’ Latin vocabulary. The form of Gerard’s translations thus resembles that of John of Seville: closeness to the Arabic original, preservation as far as possible of the construction of the Arabic sentences, and scrupulous rendering of every word contained in the Arabic. Undoubtedly, much of Gerard’s knowledge of Arabic was acquired through working with the older translations, which directed him ultimately to the adoption of the word-for-word method of John of Seville.

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The interplay between Greek science and Arab scholarship is an important historical factor and should not be underemphasized. Gerard’s transmission of this heritage to the West had an exclusively Arab garb that directly reflected scholarship in the Arab world at the time of the Latins’ contact. Furthermore, Gerard’s influence perpetuated this interplay throughout most of the Middle Ages. Even the Greek interests revived by William of Moerbeke’s translations in the late thirteenth century remained minor in comparison with the weight still carried by the Arab tradition (except in Moerbeke’s translations of Aristotle, which were extensively used in the fourteenth century): the best proof is the influence on optics and on geometry exerted by Gerard’s translations of Ibn al-Haytham (Alhazen) and of Euclid. Latin science and philosophy of the twelfth-fourteenth centuries was totally dependent on the Arabic tradition. This is in sharp contrast with the situation of

5 [13]. Al-KhwārizmAbū, Algebra (Robert of Chester)

6 [29]. Thābit ibn Qurra, De motu accesionis (John of Seville)

7 [21]. Al-Farghānī, Liber continens capitula XXX (John of Seville)

8 [33]. Pseudo-Aristotle, Liber de causis (Gundissalinus)

9 [34]. Aristotle, Physics (anonymous)

10 [42]. Al-Fārābī, De scientiis (Gundissalinus) To these may be added some new versions not included in the list compiled by the socii:

11. Al-KhwārizmAbū, Arithmetic (John of Seville; Adelard of Bath)

12. Qustā ibn Lūqā, De differentia spiritus et animae (John of Seville)

13. Al-Zarqālī, Canones (Robert of Chester)

14. Alcabitius (al-Qabīsī) (John of Seville)

15. Abū Ma’shar, Liber maioris introductorii (John of Seville)

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Gerard’s Translations and Works. Although the list drawn up by Gerard’s socii has often been proved absolutely reliable with respect to the items it contains, it cannot be considered exhaustive. Modern scholarship concurs in this view, and a strong need has been felt to add to, rather than subtract from, the list.

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scholarship in the Renaissance, which revived the original Greek texts. This crucial distinction should be borne in mind, for Sarton’s rearrangement of the socii list mistakenly transfers to the twelfth century the humanists’ fixation on Greek authors.

The socii list has been published and commented upon several times during the last century and has recently become available in an English translation by Michael McVaugh with additional useful bibliographical annotations. We shall list here Gerard’s works, both translations and original treatises, according to the order and categories of the socii list. Only such bibliographical information and criticism as can be added from recent scholarship are presented. For the Arabic background to the originals translated by Gerard, ample references are given to the recent works of two Orientalists: Fuat Sezgin, Geschichte des arabischen Schrifttums, and Manfred Ullmann, Die Medizin im Islam (1970) and Die Natur- und Geheimwissenschaften im Islam (1972).

Gerard’s Translation. The first number is that of Wüstenfeld; the number from Sarton’s list follows in square brackets.

A. Works on logic (3 works).

1[1]. Aristotle, Analitica posteriora. There is a second, revised edition (1968) by L. Minio-Paluello and B. Dod in which Minio-Paluello shows that the original Arabic text used by Gerard was not the translation of Matta ibn Yūnus, but another, anonymous one. See also Aristoteles latinus (AL), I,48,no. 13.


3[3]. Al-Fārābī, De syllogismo. Incipit TK 925: “Nostra in hoc [libro] intentio est famosas scientias….” (TK is L. Thorndike and P. Kibre, A Catalogue of Incipits of Mediaeval Scientific Writings in Latin, 2nd ed. [Cambridge, Mass., 1963.]) Probably this was some from of Prior Analytics, commentary, according to Wüstenfeld, p. 59. It should be compared with al-Fārābī, Short Commentary on Aristotle’s Prior Analytics, translated from the original Arabic with introduction and notes by Nicholas Rescher (Pittsburgh, 1963).

B. Works on geometry, optics, weights, dynamics (17 works).


5 [29]. Theodosius, Sphærica. GAS, V, p. 155, 272; F. Carmody, The Astronomical Works of Thabit ibn Qurra, 2nd ed. (Berkeley, 1960), p. 22 (hereafter flabit [1960]). Incipit TK 1523: “Sphaera est figura corporea una quidem superficie….” Also ibid.: “Sphaera est figura corporea una tantum superficie….” Differences in wording do not necessarily imply a different version but, rather, probably scribal or reader’s variants. F. Carmody, Arabic Astronomical and Astrological Works in Latin Translation (Berkeley, 1956), 22 (hereafter AAAL), ascribes the first incipit to Plato of Tivoli and the second to Gerard.

6[26]. Archimedes, De mensura circuit. M. Cla-gett, “Archimedes in the Middle Ages; the De mensura circuiti in Osiris, 10 (1952), 587-618; and Archimedes, Lesp. 30-58; GAS, V, 130-131, 289.” [Clagett, 30, n. 3, erroneously gives no. 7 to this item in the list.]

7[37]. Ahmad ibn Yūsuf, De arcubus simillibus. F. Carmody, AAAL, no. 20, 2; and Thabit (1960), 231; GAS, V, 160; 288-290, 402. Edited by M. Curtze, in Mitteilungen des CopernicusVereins für Wissenschaft und Kunst zu Thorn, 6 (1887), 48-50; and more recently by H. L. L. Busard and P. S. van Koningsveld, in ”Der Liber de arcubus simillimus des Ahmed ibn Jusuf” in Annals of Science, 30 (1973), 381-406. Wüstenfeld places Ahmad’s death in 1002 (Busard [loc. cit., p. 383] says 912), yet he was writing in 920 and probably died in 942.

8 [32]. Menelaoa, Sphaerica. Carmody, AAAL, 22; and Thabit (1960), 221, spec. 15: GAS, V, 162, no. 3. Incipit TK 397: “Declareare volo quihi-ter faciam supra punctum datum.…” Francesco Maurolico’s Latin text (Messina, 1558; Rome, 1587, with Clavius’ Astrolabium) seems to contain another Latin version. At any rate, neither for this text, nor for Theodosius’ De habitationibus (no. 26, below), which he also published with his own scholia, did Maurolico indicate the source of his Latin text.

9 [40]. Thabit ibn Qurra, De figura alehata. Carmody, AAAL, 121-122; and Thabit (1960), 159-164, three versions; the first one (versio F) — “Quod de figura nominata sectore…” (p. 159) corresponds closely to TK 1252. Also see GAS, V, 268.
10 [34]. Banū Mūsā, *Geometria*. Carmody, AAAL, 48-49; and Thabit (1960), 22; GAS, V. 246 ff. Also see M. Curtze, “Liber trium fratum de geometria,” in *Nova acta Academiae Caesarae Leopoldino Carolinicae germanicae naturae curio-sorum*, 49 (1885); and Ciagett, Archimedes, I, 223-367.


14 [47]. *Liber de practica geometrie*. M. Mc-Vaugh suggests that this is identical with al-Kara-jii’s *De mensuratione terrarum* without specifying fürther (see no. [82]). The identification remains obscure and problematic; three works briefly described in GAS, V, 387-391, could qualify as the Arabic original: Abū ‘Uthmān Sa’id (387), Ab- bacus (388), and al-Karajī (389-391). We have been unable to identify the incipit of Gerard’s version included in the socii list.


C. Works on astrology (astronomy) (12 works).


23 [31]. Geminus of Rhodes [?], *Liber introduct—which Ptolemei ad artem sphericam*. The original text cannot have been written by Geminus, as M. Mc-Vaugh makes clear; however, K. Mantiitis (*Deutsche Literaturzeitung* [1899], col. 578) reminds his readers of the close parallels between this Latin version and Geminus’ work, which he edited; see GAS, V, 157-158 (Agānīyus). It also could be by Pappus of Alexandria (see GAS, V, 175, no. 2). The relation of Gerard’s translation to the *Introduction à l’Almageste* by Eutocius presented by J. Mogenet (Brussels, 1956), who knew of a thirteenth-century (?) Latin translation (Mogenet, p. 38), is not yet clear. At any rate, Gerard’s original must have been an Arabic text.
On the other hand, a Leningrad (Acad. Cod. AB-111; present shelf mark F.N.8) manuscript in its earlier (twelfth-century) portion contains, among works of Gerard of Cremona, an anonymous treatise beginning “Dividitur orbis signorum in 12” (fol. 25r) and containing the explicit (fol. 35va) “incipit stella superbis oriri et ac-cidit cum ea aqua. (R) Explicit quod abreviatum est de libro introductori Phtholomei ad librum suum nominatum Almagesti.” The incipit is strikingly similar to a work frequently ascribed to Ptolemy in medieval Latin manuscripts and beginning “Signorium alia sunt masculina” easily confused with a work by Zahel (Sahl ibn Bishr) with a nearly identical incipit—and content, for that matter—translated by John of Seville. Paris BN codex lat. 16208 contains three different works with nearly the same incipit as above; one is ascribed to Zahel, another to Ptolemy, and the third has been tentatively assigned to Raymond of Marseilles (Mile. M. T. d’Alverny, private communication). Perhaps item 23 in the socii list of Gerard’s translations indicates this work; but we have our doubts.


25 [80]. Māshā’allah (Messahalla), De elementis et orbibus celestibus. Incipit TK 722: “Incipiam et dicam quod orbis est prescritus spericus…” This corresponds to the incipit assigned by Alber—tus Magnus in his Speculum astronomiae to a work by Messahalla, De scientia motus oribus, which Albert describes as a “latelycompendious” treatment of the sphere according to the Almagest. In Le système du monde (II, 204-206) P. Duhem gives a summary analysis of this astronomical work by Māshā’allah in Gerard of Cremona’s translation. Sarton, I, 531, calls it the most popular work by Māshā’allah in the Middle Ages, an evaluation that does not correspond to the vestiges of the manuscript tradition. There are literally hundreds of surviving manuscripts of the astrological works of Masha‘allah translated by John of Seville (see J. Thorndike, “The Latin Translations of Astronomical Works by Messahalla,” in Osiris, 12 [1956], 49-72), but only a few manuscripts of the De elementis et orbibus (see Carmody, AAAAL 32-33). Of Māshā’allah’s astrological works translated by John of Seville, only his Epistola de rebus eclipsium has a slight astronomical background; this work, however, is in twelve chapters with the incipit “Quia Dominus altissimus fecit terram ad si…” (TK 1217), and thus would seem to correspond to article 2 in Ibn al-Nadīm’s list in the Fihrist: “The Great Book of the 21 [12?] on Conjunctions, Religions and Sects.” M. Ullmann, Die Natur und Geheimwissen-chaften im Islam 304, “supplies information on the works of Māshā’allah that is based on the research of L. Thorndike, E. S. Kennedy and D. Pingree. In fact. Thorndike’s studies on Māshā’allah’s Latin manuscripts show the great complexity of identification by titles and manuscript ascriptions.

The translation of Māshā’allah’s work by Gerard of Cremona is entitled De elementis et orbibus cell’s tibus in the socii list and was so printed by Joachim Heller (Nuremberg, 1549): De elementis et orbibus celestibus liber antiquus ac eruditus Messahalae laudatissimi inter arares astrologi; this edition is not to be confused with the 1549 edition published at Nuremberg of other works of Masha‘allah translated by John of Seville under the title of Messahalae libri tres. Gerard’s translation had already been published by J. Stabius in 1504, also at Nuremberg, under the title De scientia motus orbis. This was the title under which it was known to Albertus Magnus, who describes it in his Speculum astronomiae (on the Speculum, see the forthcoming edition by Paola Zambelli): “deoedem material in the Almagest agitur satis late et compendiosius in libro Messahalache” De scientia motus orbis qui sic incipit: “Incipiam et dicam quod orbis…” — the incipit in our present work translated by Gerard of Cremona. The Arabic original seems to be the one listed as no. 8 in the Fihrist (see H. Suter, “Die Astronomen und Mathematiker,” 5): “The book known as the 27” — it contains twenty-seven chapters. Ullmann gives no hint of the existence of this book by Māshā’allah either in Arabic or in Latin translation.

26 [30]. Theodosius, De locis habitationibus. Incipit TK 660 (and 684): “Illis [“In illis” 684] quorum habitaciones loca sunt sub polo….” This wording makes it slightly different from the text used by Maurolico, who added his own scholia and some ancient ones (Messina, 1558; Rome, 1587). The 1587 version is entitled Autolyci De sphæra quaæ movetur (see no. 30). Maurolico’s text begins (prop. la): “Qui sub polo boreali habitant, quis quidem mundi hemisphaerium alterum idem semper conspicuum est.” See Carmody, Thabit (1960), 219, spec. 7; GAS, V, 155-156.


29 [42]. Thābit ibn Qurra, De motu accessionis et recessionis (also known as De motu octave spere). Probably also translated by John of Seville; see J. Millás Vallicrosa, “Una obra desconocida,” in Osiris, 1 (1936), 456-458; and “El liber de motu octave spere de Tabit ibn Qurra,” in al-Andalus, 10 (1945), 89-108. Edited by F. Carmody in Thabit (1960), 102-113. See also Otto Neugebauer, “Thabit ben Qurra… ‘On the Motion of the Eighth Sphere,’” in Proceedings of the American Philosophical Society, 106 (1962), 290-299. The incipit of this work of Thābit translated by Gerard is TK 661: “Imaginabor speram…” and is the same as in Carmody’s edition. TK gives two other incipits for the same work: TK 106, “Annus itaque Solaris vere loquendo,” and TK 1703, “Vis motus et maxime corporum celestium….” the latter identified by TK as words of the prologue to a commentary on Thābit’s work. The information given by Albertus Magnus in his Speculum astronomiae on the relation between the astronomical works of Thābit, al-Zarqālī, al-Battānī, Jābir ibn Alflah, John of Seville, al-Bītrūjī, and Ptolemy’s Almagest (and Hipparchus’ precession) ought to bear on the solution of that question. We must, however, reserve for a separate
work on the authenticity of the *Theorica planetarum* ascribed to Gerard of Cremona the consideration and interpretation of this evidence.

30 [23]. Autolycus, *De sphaera mota*. Incipit TK 1151: “Punctum equali motu dicitur moveri...” The text published at Rome in 1587, *Autolyci De sphaera quae moveretur liber*, together with *Theodosii Tripotitae De habitationibus liber* (bound with Christoph. Clavius, *Astrolabium* [Rome, 1593], in Columbia University Library copy) and given as from “Josepho. Avria. Neapolitani Interprete” has a different incipit: “Hypothes.” I. Aequabiliter puncta ferri dicuntur... “It probably is not the translation by Gerard, although the” “interpreter” claims not to have translated it from the Arabic or Greek but to have extracted it from the Vatican Library. This printed text of the *De sphaera quae moveretur* includes the scholia by Maurolico as does Theodosius’ *De locishabitationibus* (see no. 26).


32 [56]. Abū ’Abdallāh, Muhammad ibn Mu’adh *De crepusculis*, sometimes entitled *De ascension-ibus nuium*. No longer to be ascribed to Ibn al-Haytham, as was demonstrated by Sabra in *Isis*: see GAS, V. 49, 364. Edited by Petr Nonii (Pedro Nunez) Salacinissi as *De crepusculis liber*. Item Alhacen Arabis vetusissimi de causis crepus -culorum liber unus a Gerardo Cremenones jam olim latinitale dona (as; nunc vero omnium primum in lucem editus) (Lisbon, 1541). Also published by F. Risner in *Opticae thesaurus Alhazen* under Alhazen’s name (Basel, 1572), 283-288. The 1541 edition includes an appendix by Gerard of Cremona in which he states that he has “omitted the terminal words of the Arabic original by which the author praises God in the manner of the Saracens” as being needless (see Wiistenfeld, p. 66). The incipit of the *De crepusculis* is TK 1021, “Ostendam quid sit crepusculum” and TK 1022, “Ostendere autem volo in hoc tractatu quid sit crepusculum.”

D. Works on philosophy (11 works).


34 [5]. Aristotle, *De naturali auditu* (Physica). See *AL*, I, 51, no. XV; and spec, 125-126 (this translation had little success, according to *AL*).


37 [6]. Aristotle, *De generations et corrupttone*. Sybil D. Wingate, *The Medieval Latin Versions of the Aristotelian Scientific Corpus*... (London, 1931), 45-46; *AL*, I, 55, no. 21, and spec, 132-133 (little success in the Middle Ages, according to *AL*).


39 [11 - 14]. Alexander of Aphrodisias, *De tempore, De sensu*, and De augmento. to which Wiistenfeld adds *De intellectu*. Wiistenfeld states that Paris, MS BN lat. 6443 contains *De augmento, De tempore, and De intellects* as items 19, 20, and 25 in the codex. The same portion of the manuscript, however, contains a *De intellectu* at fol. 195r (no. 21), immediately after the *De augmento* (no. 19) and the *De tempore* (no. 20); this *De intellectu* is ascribed there to al-Kindī, while no. 18 of the codex (fol. 193r) is a *De imitate* ascribed to Alexander in the title (and in Sarton’s list. no. 15) but to al-Kindī in the colophon, thus showing the complexity of identifying Gerard’s translations through manuscript ascriptions. Similarly, a *De tempore* ascribed to al-Fārābī and said to be translated by Gerard in a London BM codex (Royal 12.C.XV, fol. 149) has been shown by A. Birkenmajer to be not by al-Fārābī but by Alexander of Aphrodisias.

On al-Kindī's *De intellectu*, see J. Jolivet, *L'intellect seion Kindi* (Leiden, 1971). *TK* lists three different incipits of a *De intellectu* or its equivalent ascribed to al-Kindī. *TK* 755 (and 756); “Intellexi [756. “Intelligo vel intellexi”] quod quieris [scilicet] scribi tibi sermonem brevem” is identified as belonging to al-Kindī’s *De intellectu*, but in a translation by John of Seville. *TK* 755—“Intellexi quod quesivistti de scribendo sermonem in ratione abbreviatum...” is ascribed to al-Kindī with
The most notable feature of Gerard of Cremona’s reworking of Gundissalinus’ translation of al-Fārābī’s De scientiis as explained above, was the distinct effort to depart from the recent practice of translating mawjūdāt by esse or essential. In the form of his existentia, the opposition between essence and existence, thus moving away from the earlier Boethian usage of essentia. It is, however, somewhat puzzling why, in translating al-Kindī’s De quinque essentīs, Gerard retained the expression in the title. Either he translated this work very early in his career, possibly before his reworking of Gundissalinus’ translation of al-Fārābī’s De scientiis or he may have sought to show the true origin of Hermann’s De essentīs, a work already known in

The term essentiae had been thrown about among Latin scholars by Hermann, who sought to render the Arabic wujūd (“existent ones”) as “the primary causes of all beings.” This term, frequently used also by al-Fārābī in his De scientiis (translated by Gundissalinus and again by Gerard [see no. 42 below]), was treated quite differently in Latin by Gundissalinus and Gerard. In chapter IV of the De scientiis (A. González Palencia, ed., Al-Fārābī Catálogo de las ciencias . . . , 2nd ed. [Madrid, 1953], 106 ff.), for instance, we find two expressions in the Arabic rendered diversely by esse or essential in the two translations; they are qiwām or wujūd (or mawjūd mawjūdāt). Qiwām, meaning prop, support, basis, or sustenance, is employed six times in the chapter, always with reference to the mode of existence of an accident inherent in a subject. Although Gundissalinus always rendered it by esse, Gerard always translated it as essential. The root wjūd occurs twenty-six times in al-Fārābī’s De scientiis. In the twelve instances of the form wujūd, it is rendered as esse by both Gundissalinus and Gerard, except for one case when Gerard slips into essential: Gerard’s identification with Gundissalinus here is a good instance of what is involved in the “reworkings”: the basic canvas of the older translation is altered only in specific circumstances of disagreement. Three times the root appears in the form mawjūd, also rendered as esse by both Gundissalinus and Gerard. When the root appears in the form manjūdā (four instances), to designate existent beings, it is rendered twice by sin in Gundissalinus (idiomatically closer to correct Latin usage), while Gerard uses inventa (“are found.”)—that is, “found to exist”), precisely the term that was preferred by John of Seville in identical context. The two other instances olmanjūda are rendered by essential and by essentia in Gundissalinus. and each time as existentia by Gerard. In the final section of the chapter dealing with the subject matter of Aristotle’s Metaphysics, for the first causes or principles of real being (the celestial bodies), the Arabic term most frequently used by al-Fārābī is mawjūdāt the “existent” ones. The term occurs seven times in that section, always with the same connotation. Here, Gundissalinus uses essential six times and Gerard has existentia; the seventh occurrence is rendered by esse in both Gundissalinus and Gerard.

These simple statistics tend to indicate that in the early phase of translations of philosophical or astrological works (John of Seville is also heavily involved in the vagaries of this terminology) from the Arabic, the term essential inherited from Boe thins to designate the “essence” of a thing was imperceptibly transferred (by Gundissalinus and partly by Gerard) to designate “existent” beings, or the highest causes or principles of being in Peripatetic metaphysics. The direct role of the Arabic falsafāsī understandable in al-Kindī’s De quinque essentīs as well as in Hermann of Carinthias De essentīs (published very inadequately by M A. Alonso (Santander, 1946)]. In De quinque essentīs al-Kindī reckoned the following five essentie to explain the entire chain of beings and causality therein: cause, matter, form, time, and space. The number of essentie corresponds to al-Fārābī’s own number in chapter IV of his De scientiis where he hesitates, however, between three and five, depending on the approach).

Incidentally, the idea of selecting a fixed number of essentie to explain the world of being seems to have originated with the Haranians or Sabaeans, whose philosophical elucidations on that theme the Fihrist reports casually. Their approach is quite different from that of Aristotle in the Metaphysics, where the “unmoved movers,” discovered through the astronomy of Eudoxus, may amount to anywhere between forty and fifty. Before the advent of the works of Aristotle in Arabic translations, the prism of Haranian and Hermetic speculation diffracted the problem-setting process among Arab philosophers. As the falsafī al-arāb al-Kindādī-Demonstrated in his De quinque essentiishow he reduced philosophical speculation to a strict Aristotelian framework, although the last of a De essentīs left its mark on the form of Arabic philosophical speculation. So also did the cast work on Latin philosophical speculation in the twelfth century under the impact of the Arabs. Hermann of Carin-thia counted six rather than five essentie by Christianizing the first one causa, which he divided into two essentie: on the one hand, God as creator and First Cause, and, on the other hand, the celestial bodies as created but first active causes in the physical universe.
Spain and at Chartres at the time it was written (1143). It is not possible to state with any accuracy the further impact of Gerard’s translation and of Hermann’s original De scientiis upon the orientalists of philosophical speculation among the Latins in the twelfth century, and particularly upon the series of treatises written by Latin scholars as De principis or De sex principis. The question, however, deserves greater attention in this expanded context.

42 [20]. Al-Fārābī, De scientiis, also translated by Dominicus Gundissalinus [Gundisalvi]. In supplying the bibliographical information concerning the edition of these translations by Gerard in A. González Palencia (Madrid. 1931: 2nd ed., 1953) — see no. 41 — M. McVaugh omitted to state that in addition to the Arabic text and the Latin of Gerard, Palencia’s edition also contains the text of Gundissalinus’ translation from the edition of Gui-Ielmus Camerarius (Paris, 1638) compared with that of L. Baur (Beiträge, 4, nos. 2-3 f [1903]) and a Castilian version by González Palencia. This surprising omission can create problems, since in a note by E. Grant to an extract from Gundissalinus’ version that appears later in Grant’s Source Book of Medieval Science, there is a reference to a Latin passage in Gerard that is actually to the portion of González Palencia (Madrid. 1931: 2nd ed., 1953) — see no. 41 — M. McVaugh omitted to state that in addition to the Arabic text and the Latin of Gerard, Palencia’s edition also contains the text of Gundissalinus translation from the edition of Gui-Ielmus Camerarius (Paris, 1638) compared with that of L. Baur (Beiträge, ve. 4, nos. 2-3 [1903]) and a Castilian version by González Palencia. This surprising omission can create problems, since in a note by E. Grant to an extract from Gundissalinus’ version that appears later in Grant’s Source Book of Medieval Science, there is a reference to a Latin passage in Gerard that is actually to the portion of González Palencia’s edition that contains Gundis-salinus’ translations. A later edition of Gundissalinus’ De scientiis by Alonso shows that this text is a compilation not only from al-Fārābī as a primary source but also from many other Latin sources. Gundissalinus was a recidivist in this kind of compilation that borders on plagiarism.

43 [17], Al-Kindī, De somno et vision. Carmody. AAAL 83; Albino Nagy, ed., Beiträge, 2, no. 5(1897), 12-27; GAS, III, 376.

E. Works on medicine (physica) (24 works).


45 [58]. Galen, Expositiones super librum Ypo-cratis de regimine acutarum egritudinum. GAS, III, 33, 118; Ullmann, 56. no. 61. See Diels, 102-103; Durling, 476. Printed in the Articella (Venice, 1513).

46 [61]. Pseudo-Galen, De secretis. GAS, III 126, no. 91; Ullmann,60. no. 103. See wüstenfeld, 69, for manuscripts, incipits, and editions.


52[59]. Galen, De expositione libri Ypocratis in pronosticatione. GAS, III 32, no. 3a, and 123, no. 74; Ullmann, 50, no See Diels, 107-108; Durling, 476. Printed in the Articella (Venice, 1513).


56[71]. Al-Rāzī, Liber Almansorius, the shorter of his great medical compilations. It is dedicated in 903 to the ruler of Rayy, Abu Salih Mansur ibn Ishaq ibn Ahmad ibn Asad (see Bayard Dodge, ed. and trans., The Fihrist of al-Nadim II [New York, 1970]. 704, n. 169), and not to the Abbasid Caliph al-Mansur (754-775), as stated by M. McVaugh. See GAS, III, 275, 281-
57[72]. Al-Rāzī, Liber divisionum continens. CLIII. caputula cum quibusdam confectionibus ejusdem. From Vatican MS lat. 2392 Boncompagni added Almansoris before continens, thus inviting double confusion with the Liber Almansorius (no. 56), translated by Gerard, and with the famous Continens (al-Hāwī) by al-Rāzī translated in the thirteenth century by Faraj ben Saflīm (Moses Farachi or Faragut) and printed many times (GAS, III, 280; Ullmann, 131). The Arabic original of Gerard’s Liber divisionum seems to be the Kitāb Taqṣīm al-Ilāḥ (or al-ṭaṣṣāf) described in GAS, III, 284, no. 5; and Ullmann, 132. As indicated in the sōcī list, Gerād’s translation contained 154 chapters, whereas both the Lyons, 1510, edition and the Basel, 1544, edition of al-Rāzī’s works have a Liber divisionum in 159 chapters with the incipit “Ventilata fuit…”

58[73]. Al-Rāzī, Liber introductorius in medicinam parvus. This translation, probably of the Kitāb al-mudhāḥ ilā t-tibb, is no. 6 in Sezgin’s list (III, 284), and the eighth work entitled Introductorium medicine in the Venice, 1500, edition. is entitled (fol. 279v) Liber introductorius parvus in medicinam Rasis, with the incipit “Salvator excelsus et gloriosus…”

The following translations (nos. 58a, 58b, 58c, 58d) were shown by L. Thorndike (“Latin Manuscripts of Works by Rasis at the Bibliothèque Nationale, Paris,” in Bulletin of the History of Medicine, 32 [1958], 54-670 to be regularly present together in a good sampling of manuscript collections of works by al-Rāzī, that were translated by Gerard of Cremona. The ascription to Gerard is not formally stated for each, but each collection contains some general indication to that effect. The same collection of works likewise was frequently printed together (Milan, 1481; Venice 1497; Venice, 1500; edition. is entitled (fol. 279v) Liber introductorius parvus in medicinam Rasis, 1510; Basel, 1544) and was ascribed to Gerard of Cremona. There thus exists a strong probability that they were translated as a group by Gerard, as Wustenfeld (pp. 71-72) suggested in 1877, although the sōcī list did not include them by name. By omitting them from his list of them by name. By omitting them from his list of Gerard’s translations, Sarton indicates his tacit rejection of Wustenfeld’s hypothesis. Thorndike’s “Latin Manuscripts… however, seems to us to be nearly decisive in favor of Wustenfeld’s suggestion.”

58a [74]. Al-Rāzī, De jucturarum egrituidinibus (or doloribus). The incipit Thorndike, “Latin Manuscripts…” is Dixit Rasis. Volo in hoc capitulo dicere medicinas que necessarie sunt doloribus jucturarum.” In several of the Paris manuscripts studied by Thorndike, this translation is grouped with no. 58b under the joint title Experimenta Rasis. It is printed with the group in the five early editions listed in no. 58. In Sezgin’s list (III, 288) this work is nos. 27 and 28: Aujā at-madsīl and Aujā al-nqiṣr. Sezgin (III, 289) expresses doubt about the authenticity of an Experimenta Rasis (Kitāb al-tajribāt; GAS, no. 34); although he knows Thorndike’s “Latin Manuscripts,” Sezgin does not bring it to bear on the authenticity of the Experimenta Rasis.

58b [not in Sarton]. Al-Rāzī, De egrituidinibus puerorum (sometimes called Practica puerorum or de cura [curis] puerorum; see Paris, BN lat. 6893, fol. 283; lat. 7406, fol. 167; J. de Ketham, Fasciculus medicine… Tractatus Rasis de egrituidinibus puerorum et earum cura qui appellatur practica puerorum [Venice, 1500]), the incipit begins “Sa-hafati….” The work is often grouped in manuscripts with no. 58a under the title Experimenta Rasis and is published with it in the early editions of works by ai-Rāzī (no. 58). Neither Ullmann, nor Sezgin’s list compiled from earlier Arabic bibliographical lists of Ibn al-Nadīm. al-Bīrūnī, and Ibn Abū Usayyib a. contains a title that corresponds to this work translated by Gerard. It may, however, be an extract from a larger work; the matter requires further investigation.

58c [not in Sarton]. Al-Rāzī, Antidotarium. The incipit is “Dixi in hoc meo libro medicinas….” The original Arabic of this translation may be the Aqrābādīn al-kabīr, as suggested by Sezgin (III, 283, no. 4) and Ullmann (Die Medicin…, 303). We must note, however, that the Arabic bibliographic cal lists also mention a Kitāb al-Qarābādīn as-sagīr in four chapters by al-Rāzī (GAS, III, 292. I, 28; Ullmann, 103). Ullmann thought that this was the second Antidotarium printed in the Basel, 1544, edition (pp. 546-559) and also in the Venice, 1497, edition (pp. 95-98; “Cap. 1. De medicii-narum”): while Sezgin observed that there was no manuscript trace of this work in Arabic. Perhaps one should consider the pseudo-Rāzī, Kitāb Nuẓhat al-multāk (GAS, III, 291, no. 69; Ullmann, 135 and 332) as another Antidotarium by al-Rāzī, for Ullmann describes its contents as dealing with “the removal of all harmful effects of simple and composite poisons and drugs of animal, plant or mineral origin, or of poisoned clothes, drinks or foods, or of things handled by the hand such as snakes, scorpions and various animals.” We have not ourselves established the necessary comparison of the two texts to decide the issue.

The Latin Antidotatorium is present with nos. 56, 57, 58a, and 58b in seven of the eight Paris manuscripts examined by Thorndike; its incipit— “Dixi in hoc libro meo medicinas quorum necessitas est inseparables….” (R) Verba Abu-abecri de redactione librorum suorum (N) lam pri-fem pervenimus ad expositionem relationis egrituição que sunt a summite capitatis quse ad pedes…” — corresponds to the text on p. 452 of the Basel, 1544, edition, De antidotis. But in the Leiden, 1510, edition, fol. eclxviii verso, there is mention of an Antidotatorium Rasis “in quo continetur compositiones plurium medicinarum ad diversas dispositiones… Cap. lum. De aptatione medicinarum ut sine horribilitate possint sumi….” This last sentence shows that the extract with this incipit found in Paris, BN lat. 6893, by Thorn-dike, who was inclined to treat it as a separate work, probably is part of the short Antidotarium.

58d [not in Sarton]. Al-Rāzī, De preservatione ab egrituidinibus lapidis. The work that in Paris, BN lat. 6893, follows the one beginning “De aptatione medicinarum…” (no. 58c) has the incipit “De lapide qui in renibus vel vesica formatur…” The work printed with the incipit “Dixit Rasis. De lapide qui in renibus vel vesica formatur” in the Leiden, 1510, edition (fols. 278-279) under the title Tractatus Rasis de preservatione ab egrituidinibus lapidis, may be a version by Gerard of Cremona of another well-known work by al-Rāzī. See GAS, III, 288, no. 26; Ullmann, 134.
A work in Latin translation entitled *Aphorismi Rasis*, in six chapters and containing well over 300 aphorisms, was printed anranc the works of al-Rāzi, in the early editions, Wüstenfeld suggested Gerard as a translator of these, as well as of the other works by al-Rāzi in these editions, although they were not included in the *socii* list. Sezgin (III, 284, no. 7) identifies the Latin *Aphorismi Rasis* with an Arabic original *Kitāb al-Murshid or Kitāb al-Fusul* although he does not suggest Gerard as a translator. Ullmann (pp. 134–135) describes this *Kitāb al-Murshid* (“Der Führer”) as a late work by al-Rāzi that consists of 377 aphorisms in 37 chapters, but he does not mention a Latin translation of it. The original Arabic was published by A. Zaki Iskandar in *Revue de l’institut des manuscrits arabes* (Cairo) 7 (1965) 1-125 In Latin, the work was published sometimes with the other Rāzi translations by Gerard of Cremona, sometimes in a collection of *Aphorisms* headed by the *Aphorismi Raby Moeyses* (Mainmonides). In all these editions it has approximately the same title, prologue, and incipit as the *De secretis medicine secundum Rasin* studied by Thomdike (1958) in Paris, BN lat. 17847, where it begins: “Inquit Abubecri... Congregavi in divisionibus egritudinum et ostendi curas et causaran...”. This text, however, is not included among the tightly knit group of works by al-Rāzi translated by Gerard of Cremona. On the contrary, in Paris, BN lat. 17847, as observed by Thomdike, it is said to be translated by a “Mag-ister Egidius apud sanctam habenam,” whom Thorndike does not identify further. Thomdike’s observation, based on manuscrit tradition, does away with Wüstenfeld’s hypothesis based on printed texts. It would seem, therefore, that there is positive proof that the *Aphorismi Rasis* was not translated by Gerard.

59[77]. Ibn al-Wāfid (Abengeutfit), *Liber medici-narum simpliciet et ciborum*. Ibn al-Wāfid was a physician of CÔrdoba who died in 1075, according to Wüstenfeld (p. 72); a vizir at Toledo who died after 1068, according to Ullmann (*Die Medizin*, 210); and in 1068, according to Sezgin (III, 228). See GAS, III, 228-229; Ullmann, *Die Medizin*, 210 and 273; Max Meyerhoff, “Esquisse d’histoire de la pharmacologie et botanique chez les musul-mans d’Espagne,” in *al-Andalus*. 3 (1935), 13 ff. The Liber medicinarum simplicie was printed at Strasbourg in 1531 with Ibn Butlan’s (*Ulluchasem Elibmiral Tacuini sanitalis* (see Ullmann, *Die Medizin*, 157-158) and at Venice in 1558 with Mesné.

60[70]. Yahyā ibn Sarafīyūn (Filius Serapionis), *Breviarius Iohannis Serapionis tract. VII better known as Praecita Serapionis. See GAS*, III, 241, no. 2; Ullmann, 102-103. Printed at Venice in 1497 and reprinted several times. Ullmann gives a description of the contents from the Lyons, 1525, edition.

61[75]. Abu’l-Qāsim (Abulcasis) al-Zahrāwī, *De cirurgia, tres tractatus*. Of the thirty component parts of this enormous work, only the last part, dealing with surgery and its instruments in three books, was translated by Gerard. The original Arabic is profusely illustrated in manuscripts and was published with English translation by M. S. Pink and G. L. Lewis, *Albucasis on Surgery and Instruments. A Definitive Edition of the Arabic Text with English Translation and Commentary* (London, 1973). Also see GAS, III, 323-325, and V, 414 (*Nachträge*); and Ullmann, 149- 151. The Latin was printed at Venice in 1487 with the *Chi-rurgia* of *Guy de Chauliac*.


64[78]. Galen, *Tegni [Microtegni or An parva], cum expositione Ali ab Rodohan (cAli ibn Ridwān). See GAS*, III, 81; Ullmann, 45; Durling, 464; Diels, 61-63. It is at the end of this work that the manuscripts usually contain the *socii* list of Gerard’s works that we are following here, after Wüstenfeld. Concluding the list of Gerard’s medical translations and nearly at the end of the entire list, the *Tegni* with Ibn Ridwān’s commentary is named in the *vitae* as among the last works translated by Gerard (*novissime ab eo translati*). This statement seems to imply a chronological order in the list, at least as far as the medical works are concerned. Durling, 463; Diels, 61-63.

F. Works on alchemy (3 works).

65[84]. [Jābīr ibn Hayyān], *Liber divinitatis de LXX*. Published by M. Berthelot in *Archéologie et histoire des sciences* (Paris, 1906). Renaldus Cremonensis (Wüstenfeld, 74) seems to be a misreading or a scribal misspelling of Gerardus Cre monensis. At least, the *socii* list is explicit about Gerard’s translation of this work, and no other translator of it is known; a Renaldus Cremonensis as translator also is unknown.

66[85]. Pseudo-Rāzi [?], *De aluminibus et sali-bus*. Incipit *TK* 677. Edited by R. Steele in *Isis*, 12 (1929), 14-42. See J. Ruska, *Das Buch der Ataune und Satze; ein Grundwerk der späte-frühneutschen Alchemiet* (Berlin, 1935); and “Pseudo-epigraphie Rasis-Schriften” in *Osiris*, 7 (1939), 30-93. See Ullmann, *Die Natur-...*, 210-213, 228; GAS, IV, 282. Wüstenfeld, following Stein schnieder, holds that because the words “apudnos in Yspania’ appear in this text, the author cannot be the famous physician al-Rāzi, who never was in Spain. We must observe, however, from a limited practical experience with medieval alchemical manuscripts, that alchemists, who often were their own scribes, used these texts to inform each other of their accomplishments or of some other alchemist they knew or had heard about. These conditions may render invalid any criterion of textual authenticity based solely on such incidental remarks.
G. Works on geomancy and divination.

68 [87]. Liber geomantie de artibus divinantibus qui incipit: Estiniamverunt Indi. Also translated by Hugh of Santalla [?]. See Carmody, AAAL, 173. But is this a translation or an original work by Gerard? TK gives three different incipits of a geomancy ascribed to Gerard of Cremona, not specifying whether it is a translation or an original work, but with a question mark next to two of them.

TK 697: “In nomine illius qui maior est incipit geomancia…” Gerard of Cremona.

TK 1446: “Si de statu corporis questio proponatur utrum meliorari…” Gerard of Cremona (?), Geomancia.

TK 1461: “Si quis per artem geomanticam de preteritis, presentibus et futuris…” Gerard of Cremona (?). Geomancy.

On the other hand, the work beginning “Estiniamverunt indi.” stated in the socii list to be a translation by Gerard, is listed by both TK and Carmody, AAAL, 173, as translated by Hugh of Santalla. Hugh of Santalia is known exclusively as a translator from the Arabic; if he translated this geomancy, then the original must have existed in Arabic. On the other hand, if the socii list is to be believed—as surely it must, in view of the great reliability of the remainder of the list —then what happened to Gerard’s translation, or original work? If the Geomancy currently ascribed to him is not his (printed at Paris 1661 in a French translation by “le sieur de Salerne” there nevertheless are manuscript copies of a geomancy that clearly credit Gerard as author (Wustenfeld, 75). This geomancy by Gerard often has been ascribed to the other Cremonensis, Gerard of Sabbioneta—but with no medieval authority, and on the same grounds as for the authorship of the Theoriae planetarum.

69 [79]. Liber Alfadhul i. est arab de bachi. A book on lots and fates determined by questions and answers. The identity of the author indicated as “arab de bachi” (with variants “i. tharab,” or “de brachi,” or “z d harab de bachi”: see Wüstenfeld, 75) should be read much more simply, it seems, as “an Arab from Balkh” (arab de balchi). Astrologers and occultists related to the city of Balkh were numerous in the classical period. On the other hand, some Latin manuscripts carry the additional identification of Alfodhol de Merengi, Alfodhol de Merengi, or Alrafodhol de Merengi. Wüstenfeld (p. 75) proposed to read it as a corruption of al-Nayrizi (already corrupted into Tabrizi Yazdī in some important sources), a well-known commentator on the Almagest and on Euclid, because this author’s name happened to be al-Fadl; but the passage from al-Nayrizi to de Merengi appears a bit farfetched. It seems much more natural to read de miranjī, or nayranji, a frequently used term of Persian origin for books of magic, and magic is really the subject of this book. See M Ullmann, Die Natur-mid Geheimwissenschaften im islam, 360, 362, 363, 366, 367, 375. 376. 393.

See P. Kunitzsch, “Zum Liber alfadhol.” eine Nachlese, “in ZDMG, 118 (1968), 297-314. which is an appendix to a German edition and version by B. F. Lutz, Das Buch 'Alfado,' Untersuchung und Ausgabe nach der Wiener Hds. 2804 (Heidelberg, 1967), with bibliography. Kunitzsch points out the existence of a two-fold Latin manuscript tradition, only one of which may be called a direct translation. He confesses to being unable to decide which of the two works of text should be ascribed to Gerard of Cremona. The Arabic tradition also varies considerably, with fanciful attribution of authorship to al-Kindī or to Caliph Harun al-Rashīd. No manuscript of the Arabic text known to Kunitzsch mentions al-Fadl ibn Sahīl al-Sarakhsī as the author, while the Latin text, presumably by Gerard, is specific on this name.


H. Additional translations ascribed to Gerard and not on the socii list.

Both Boncompagni and Wustenfeld agreed that medieval Latin tradition credited Gerard with more translations than are found in the socii list. Wustenfeld’s additions are included in Sarton’s expanded list, with the exception of some works by Ibn Sinā (Wustenfeld, 78); likewise, most of Bon—compagnis additions are included in Sarton’s list, the only omissions being Ibn al-Haytham’s Per—spectiva (Boncompagni, 408-409) and the Alcha—bitius (Boncompagni, 443). The latter work had already been translated by John of Seville; and if Gerard really did translate it again, it must have been a reworking, as were so many other of his early efforts in translation.
The story of the medieval Latin _Alchabitius_ is extremely involved, since this work came to be included in the curriculum of some teachers of astronomy—astrology—medicine, hence its manuscript tradition is very complicated, and no conclusive statement on Gerard’s possible contribution can yet be made. The omission of Ibn al—Haytham’s _Perspectiva_ from Sarton’s list, however, is important; and it is difficult to understand Sarton’s rationale in this case. Although it seems likely, it is by no means certain that Gerard was the translator of the _Perspectiva_. We shall give here in brief summary the additional items on Sarton’s list, which includes nearly all ascriptions of Latin translations from the Arabic credited to Gerard of Cremona (Sarton’s numbering is in square brackets).

[8] _Liber lapidum_, an anonymous work quoted by Arnold of Saxony (ascribed to Aristotle).

[11, 13, 14]. These correspond to Wustenfeld’s nos. 39a, 39c, and 39d, respectively.

[15]. Alexander of Aphrodisias, _De unitate_. In Paris, BN lat. 6443, fol. 193r, it is ascribed to Alexander in the title but to al-Kindī in the colophon.

[18]. Al—Kindī, _De ratione_. See A Nagy, ed., _Beiträge_. 2. no. 5 (1897), 2-11.

[27]. Apollonius, _De conicis_. Gerard unquestionably translated a fragment of book I of the Conies. which he used as introduction to his translation of Ibn al—Haytham’s _De speculis comburentibus_. The fragment of the _Conics_ translated by Gerard was published by Heiberg in his edition of the _Conics_ II (Leipzig, 1893), Ixx-Ixxx.


[48]. _Algorismus de integris_. This is perhaps a translation (probably a new version) of al-Khwārizmī’s _Arithmetic_ in one of the many Latin adaptations of this famous Arabic text (now lost). A. Allard of Tourpes, Belgium, is presently working on the problem of the medieval algorithm; and his research may throw light on the various versions of Al—Khwārizmī’s _Arithmetic_ among Latins and Greeks.

[49]. _Liber co—aequationis planetarum_. It is unclear which of the several astronomical works ascribed to Gerard in manuscripts (see Wustenfeld, 78-79) corresponds to this title given by Sarton, after Steinschneider (“Die europäischen Überset—zungen”).

[51]. Al-Zarqālī, _Canones_. Rules for the use of astronomical tables, compiled by the Toledan astronomer Zarqālī (AZarchel) about 1070. Zarqālī also drew up the Toledan Tables to accompany these _Canones_. The _Canones_ of al-Zarqālī were very popular until they were superseded in the fourteenth century by the Alfonsine Tables. Some manuscripts of the translation of the Canones named Gerard as the translator; it seems that he translated only the _Canones_ and not the tables, although he may have composed tables of his own, either for the meridian of Toledo (Boncompagni, 445) or for the meridian of Cremona. See M. Rei—naud, _Géographie d’Aboulféda_. I (Paris, 1848), ccxlv—ccxlviii, according to whom MS Paris, BN lat. 7421, contains the _Theoriae planetarum_ ascribed to Gerard of Cremona (fol. 131) immediately after the tables of al—Zarqālī “translated by Gerard of Cremona” (fol. 100). On the Toledan Tables in general, see G. J. Toomer, “A Survey of Toledan Tables,” in _Osiris_, 15 (1968), 5-174.

[52]. _Liber omnium sperarum caeli et compositionis tabularum_. The same authenticity problems as for no. 51. Wüstenfeld (p. 78) lists it as a translation under the title _De compositione sphaerae_. The possibility that this could be an obscure designation for the _Theoriae planetarum_, which is now generally removed from Gerard’s list of original works, will be discussed when we deal with Gerard’s original works.

[67]. Galen, _Tegni_. Sarton lists separately this work by Galen that is included, with ’Alī ibn Riḍwān’s commentary, as no. 64 in the socii list. He later lists the commentary by ’Ali as [78].

[69]. Ibn Māṣawayh (Mesue), _Aphorisms_. See Ullmann, _Die Medicin…_. 113; GAS, III, 233 (ascribed to Johannes Damascenus by Constantine the African). Edited by P. Sbath (Cairo, 1934).

[81]. (Alchandrus). _Arcandam de veritatis et praedicationibus astrologicis_. It is very doubtful that Gerard translated this simplistic astrological work of which some manuscript copies of the tenth and eleventh centuries exist (Paris, BN lat. 17868 [10c] and London, BM Add. 17808 [lie]); see Lynn Thorndike, _A History of Magic_. I (New York, 1923), 710 ff. On _Arcandam_, see A. van de Vyver, “Les plus anciennes traductions latines…” in _Osiris_, 1 (1936), 658-691. Sarton probably confused or misread Alchandres in Boncompagni-pagni’s suggestion to add Alchabitus to the list of Gerard’s translations.


As already shown, the socii list is not exhaustive. Certainly the socii strove for completeness, but Gerard’s long career and his reluctance to sign his work help to explain the limitations of their list. The socii, who apparently belonged to a circle of collaborators late in Gerard’s life, simply were ignorant of the details of his early years as a translator. Gerard most certainly was not the originator of the list—not even in imitation of Galen at the end of the Tegni: it was the socii who found in Galen’s practice the justification or inspiration to draw up the list as best they could.

Arab scholars interested in sciences seem to have created or inherited collections of basic works in the various branches of the quadrivium that students in each field had to master. The fact is fairly clear in the case of mathematical and astronomical works, as shown in the studies of M. Steinwender (“Die mittleren Bücher…” ) and F. Carmody (Thábit [1960], 22). Similar pedagogical collections of required works in medicine probably were inherited by the Arabs from the Summ-maria Alexandrinorum (M. Ullmann, Die Medizin…, 65-67; GAS, III, 140-150), to which active physicians and writers like Hunayn ibn Ishāq and al-Rāzī seem to have added significantly. It would seem that Gerard of Cremona sought out such collections, particularly in mathematics, astronomy, and medicine, in order to translate them as a corpus in each branch of the quadrivium for the large number of his translations in those fields frequently agrees with the order of those Arab scientific collections.

Among the Latins, perhaps even directly under the influence of Gerard of Cremona, similar collections were valued and new ones, especially astrological translations from the Arabic, were assembled. In 1902 A. A. Bjornbo discovered, in the Paris manuscript BN lat. 9335, which contains twelve translations by Gerard of Cremona, the direct statement by Hunayn ibn Ishaq on the subject of those “mittleren Bücher” (BM, 3rd ser., 3 [1902], 68). The following year, Bjornbo published (ibid., 4 [1903], 288-290) a very interesting specialized program of study in mathematics-astronomy that he was certain corresponded to some university curriculum, although he could not positively identify the university. The parallelism between this curriculum and the Hunayn extract is obvious, in the inspiration if not in the detailed series of works. Although medicine was not part of the quadrivium, it was in this field that Gerard produced the greatest number—and his best—works. He translated at least twenty-one medical writings, among them Ibn S’na’s Canon and al-Rāzī’s Almansorius. Consequently, his translations had an immeasurable impact upon Latin medicine of the Middle Ages, which profited greatly from the advanced state of medicine in medieval Islam. Second in importance in number and quality were his translations in geometry, mathematics, and astronomy, totaling some thirty works. Here again, Gerard’s translations influenced the writings of Latin scholars toward a scientific approach to knowledge of nature that subordinated philosophical and theological inclinations. Six additional works on geomanancy and alchemy also contributed largely to the scientific orientation of the medieval West. Gerard’s eleven translations of works in philosophy and three on dialectics appear to have had a rather minimal influence; they seem to have been selected for their relevance to the epistemology of natural science and to a scientific interpretation of the cosmos.

During the thirteenth century, the parens scientiarum of the era, the University of Paris, after the prohibition of Aristotle’s work and of Arabic learning in 1210-1215, turned toward philosophical and theological speculation, although the consequent Scholasticism always had room for physical and cosmological considerations. The evolution of the university curriculum during the thirteenth and fourteenth centuries reveals the slow but sure penetration of many of Gerard’s translations, which nourished the awakened interest in natural science until the end of the Middle Ages. Although the Renaissance infatuation with Greek texts at the expense of their Arab counterparts perhaps exerted a delaying action that began at the end of the fourteenth century, one can still observe among the luminaries of the “new science” at Oxford, Paris, and Padua a reliance on some of the texts produced by Gerard. Regiomontanus’ scathing indictment of the Theorica planetarum reveals that it was still used largely as an introductory book by students of astronomy. Gerard may have written this text, although its authorship has been widely disputed. Still, the first Latin Almagest to be printed (Venice, 1515) was Gerard’s, of which it seems that Copernicus soon procured a copy.

Gerard of Cremona’s Original Works There is still much uncertainty about the number, value, and even the existence of Gerard’s original works Aware of the incompleteness of the socii list and impressed by the number of manuscript ascriptions of works to Gerard, Wustenfeld (pp. 79-80) added several allegedly original works, including two medical glosses on works by Ishaq al-Isra: his Viaticum and his Diaetae universales (see GAS, III, 296-297), and a Summa de modo medendi et ordine curandi. Nevertheless, Wustenfeld held that Gerard did not compose the celebrated Theorica planetarum and the Geomantia astronomica, attributing both to Gerard of Sabbioneta on the strength of G. Tiraboschi’s and Boncompagni’s argumentation, which is based on three equally weak and unsound premises: the absence of this work in the socii list; the “doctrinal meagerness and linguistically inappropriate” style of the Theorica; and the arbitrary selection of the insignificant astrologer Gerard of Sabbioneta (near Cremona) as the probable author, without any medieval testimony for this. But this theory is severely flawed, for the original socii list never made any claim to completeness. Moreover, the list refers exclusively to “translations”—the primary role of Gerard in the service of his “beloved” Christendom. Occasional minor works composed by Gerard, especially in fields where his reputation as a translator was so eminent, were certainly of secondary importance to the socii—if they were even aware of their existence.

Olaf Pedersen holds (see E. Grant, A Source Book in Medieval Science) that the Theorica planetarum Gerardi dates from the middle of the thirteenth century. Yet, one little-observed manuscript of Spanish origin, now preserved in Leningrad at the Library of the Academy of Sciences, Codex XX, Ab-III (present shelf mark F.Nº.8), already described by Sangin (CCAG, 12, 205-229), contains translations of astronomical and astrological works by Gerard of Cremona and by John of Seville in its
older portion that apparently dates from the late twelfth century (Sangin said thirteenth-fourteenth century; but we saw the
codex in August 1974 and the first portion is definitely of the late twelfth century: on folio 77 it has a world horoscope dated
13 March 1178). On folios 13r-18r it contains the *Theorica planetarum*, here formally ascribed to Gerard of Cremona in a
collection of translations by him and by John of Seville. This copy may date from the lifetime of Gerard of Cremona and may
have originated in his circle. In 1959 Thorndike ("John of Seville," in *Speculum*, 34 [1959], 31-32) noted two fifteenth-century
manuscripts of the *Theorica* bearing the ascription to John of Seville. There is, in fact, a distinct possibility that, like so many
other cases of close relation between John’s and Gerard’s translations, the *Theorica planetarum* may have originated with John
of Seville, whose style it matches perfectly, and was reworked in some fashion by Gerard of Cremona.

There is little to be added concerning the quality of Gerard’s translations. Beginning with the Renaissance and through the
early centuries of printing, the criticisms of his rendering of his Arabic models were many and harsh. These criticisms,
however, rarely took into account the long period of manuscript transmission prior to the invention of printing that rendered
Gerard’s works so susceptible to scribal errors. Moreover, none of the critical comments has accused Gerard of mistranslating
from the Arabic, simply because no scholar has compared his translations with the Arabic. This double task, advocated by
Wüstenfeld in 1877 (p. 80), has not yet even been attempted.

NOTES

1. C. A. Nallino, “Il Gherardo Cremonese autore della *Theorica planetarum* deve ritenersi esse Gherardo Cremonese da
Sabbioneta,” in *Atti dell’Accademia dei Lincei Rendiconti*. Cl. di sci. mor., stor. e fil., 6th ser., 8 (1932), 383-404; repr. in

2. Text in F. Wüstenfeld, “Die Übersetzungen arabischer Werke in das lateinische seit dem XI. Jahrhundert,” 77; also in B.
Boncompagni, “Della vita e delle opere di Gherardo Cremonese, traduttore del secolo duodecimo, e di Gherardo da
Sabbionetta astronomo del secolo decimoterzo” in *Atti dell’Accademia pontificia dei Nuovi Lincei*, 4 (1851), 387-493, also
published separately (Rome, 1851), 3-109. In his recent English trans., published in E. Grant, ed., *A Source Book in Medieval


4. Francisco Arisi, *Cremona literata, seu in Cremonenses doctrinis et literaris dignitibibus eminentiores chronologicae
adnotationes*, I, 269-273.

genossen kurz nach dem Tode des Meisters (1187) zu Toledo verabfasst.” refers to Boncompagni’s and V. Rose’s studies but
ignores that of Wüstenfeld. Sudhoff claims to have searched MSS of the trans. of the *Tegni* for new copies of the *vita*
and list: he says he has found three in addition to the Vatican MS used by Boncompagni. Two of the new MSS are those used (and
presumably discovered) by Wüstenfeld thirty-eight years earlier (MSS Leipzig 1119 and 1148). In presenting his “new” text
from these four MSS. Sudhoff committed all the scribal errors rejected by Wüstenfeld. The fourth MS was cited by V. Rose in
1874.

6. V. Rose, “Ptolemaeus und die Schule von Toledo,” in *Hermes*, 8 (1874), 327-349, esp. 347-349. The Erfürt MS of Sudhoff
is cited on p. 334. n. 2.


8. Since M. McVaugh’s English trans. (1974) is now easily available. we shall refer to it as a rule and mark only occasionally
the need for closer interpretation by reference to the Latin text of Wüstenfeld.


10. See Rose, op cit., 349. Also K. Sudhoff’s ed. in *Archiv für die Geschichte der Naturwissenschaften und der Technik*, 8
(1918). 1-40, with better variants offered by A. Birkenmajer, *ibid.*, 9 (1920), 46-51.

early as 1134, which would give Gerard fifty-three years of activity in Toledo, a still more plausible situation. This early date,
if it could be more securely based, would carry tremendous importance for Gerard’s training in Arabic. The year 1133 is the
date of the completion of John of Seville’s translation of Abū Ma’shar’s *Liber maioris introductorii*. John is known to have
been active in translating, both on his own and for Archbishop Raymond, for at least a decade after that. This raises the strong
possibility of direct contact between Gerard and John of Seville, his model as a translator.

12. In doubting Gerard’s authorship of any number of translations because of this incredibly large output, Sarton did not
consider the time factor. There is nothing inherently impossible in Gerard’s direct authorship of so many translations if he had
spent more than forty or even fifty years in that work. As his biography states, he was a very industrious worker throughout his stay in Toledo.

13. See Wingate, op. cit., 46 and references.

14. *Hermes*, 8 (1874), 335 and 336. n. 1. We doubt, however, that this collaboration with a native Spaniard was necessarily done “in mündlichem Dictate,” as Rose states, taking his example from Rudolf of Bruges. This process clearly prevented the Latin collaborator from working directly with the Arabic text. Such a situation, if probable for Rudolf, who made very few translations, is quite unthinkable for Gerard of Cremona.


17. I. Opelt, “Zur Übersetzungstechnik des Gerhard von Cremona,” in *Glotta*, 38 (1959), 135-170, is a valuable effort concentrating on a single work. Yet the results, embodied in a series of suggested criteria (pp. 138-151) for determining Gerard’s characteristical manner, can only be weakened by the lack of comparative approach with other possible translations. This may be the case with the *De caelo et mundo*, the object of Opelt’s attention. The weakness of Opelt’s approach shows even more in the final glossaries; her glossary of Arabic terms contains only thirty entries, whereas the glossary of Greek-Latin terms (surely of little direct concern to Gerard) contains 600 terms. Gerard patiently and earnestly worked with all of his Arabic texts, an effort that does not appear in Opelt’s analysis, at least not clearly enough. L. Minio-Paluello made a more direct examination of Gerard’s technique in relation to the Arabic in *AL*, 2nd ed., L. Minio-Paluello and B. G. Dod. eds., I (Bruges-Paris, 1968), 1-4, containing Aristotle’s *Analytica posteriora* [no. 1 on Wüstenfeld’s list]: see esp. pp. li lxv, which contain results indicating the soundness of this approach.

18. *AL*, 1. 16 and 197-198; II. index, under Qustā ibn Lūqā and M. A. Alonso, “Traducciones del Arabe al latín por Juan Hispano (Ibn Dawūd),” in *Andalus*, 17 (1952), 134-139. Alonso’s information should always be used with caution. These studies conclude that there were two translations of this text, one surely by John of Seville and the other anonymous. E. Bertola, however, after a close comparison with several MSS of this Latin text, believes that there was only one translation, with scribal variants: E. Bertola, “Le traduzioni delle opere filosofiche arabo-giudaiche nei secoli XII e XIII,” 269. The criteria proposed above for distinguishing Gerard’s in relation to earlier translations seem to be directly applicable here. The difference in the two incipits of Qustā ibn Lūqā’s Latin translations shows that John of Seville’s version omitted the typically Muslim clause of “honorificet te Deus,” which the other version restored. Since this is exactly Gerard’s manner in his new versions, it would seem that the “anonymous” version should definitely be ascribed to him.

19. M. McVaugh is to be commended for having returned to the socii list in his recent English trans. of the vita and bibliography in E. Grant, ed., *op. cit.*, 35-38.

20. Minio-Paluello’s hesitatio suggestion that Gerard might have known Greek and done translation from this language in southern Italy before going to Toledo—“Note sull’Aristotele latino medievale,” in *Rivista di filosofia neoscolastica* (RFNS), 42 (1950), 227-228—was rejected by A. Mansion, *AL*, VII, 2 (1957), vii-vii.


25. Plagiarism was hinted at by Alonso when he edited *Hermann de Carinthia, De Essentiis* (Santander, 1946), in which he showed that Gundissalinus’ *De processione mundi* took entire paragraphs from Hermann’s work.

that of Gerard of Cremona, the students of medicine also used the commentary (Liber isagogicus) completed at Paris in 1331 by John of Saxony. See Simon de Phares. Recueil des plus (celebres astrologues) . . ., Ernest Wickersheimer, ed. (Paris, 1929), 256. Simon recalls that in his youth (ca. 1460) he went to Paris “en la rue du Feurre [seat of the Faculty of Arts] ou je aprins De spera et mes introduc-toires de l’Acabice.”

27. Originally composed at the court of Alfonso el Sabio in Toledo. ca. 1255-1260, but introduced after important modifications at the University of Paris about 1335. E. Rosen is preparing a study on the fate of the Alfonnisne Tables in the medieval universities.

BIBLIOGRAPHY

The following abbreviations are used:

AHDLMA. Archives d’histoire doctrinale et littéraire du moyen âge.


