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Switching Style towards Ease in a Medieval Textbook of Medicine: Revision of Constantine the African's *Pantegni*, *Theorica* in Twelfth-Century Manuscripts

by

OUTI KALTIO

OF NORTH-AFRICAN ORIGIN, THE BENEDICTINE MONK Constantine the African (d. by 1098/9) was the conduit through which Arabic medical works were first transmitted to the Latin West. Having migrated to Salerno in Southern Italy by 1076/7, he began a remarkable translation program, which he subsequently continued in the monastery of Monte Cassino.¹ His most important translation, the *Pantegni*, was based on the *Kitāb al-malakī* by the Persian physician 'Alī ibn al-'Abbās al-Maḡūsī (commonly Latinized as Haly Abbas, died after 978).² The original Arabic work consisted of two individual parts: *Theorica*, an introduction to medical theory including discussion of the four humours, and *Practica*, with remedies and therapeutic strategies for the physician.

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¹ For Constantine, the *Pantegni*, and the production of the work in Salerno and in Monte Cassino, see the study by Erik Kwakkel & Francis Newton, with an introduction by Eliza Glaze, *Medicine at Monte Cassino: Constantine the African and the Oldest Manuscript of His Pantegni*, *Speculum Sanitatis* 1 (Turnhout: Brepols, 2019). See also the foundational collection of essays published in 1994: *Constantine the African and 'Alī ibn al-'Abbās al-Maḡūsī: The Pantegni and Related Texts*, ed. by Charles Burnett & Danielle Jacquart (Leiden: Brill, 1994). For Monte Cassino and its manuscript production during the monastery's heyday, see H. E. J. Cowdrey, *The Age of Abbot Desiderius: Montecassino, the Papacy, and the Normans in the Eleventh and Early Twelfth Centuries* (Oxford: Oxford University Press, 1983); Francis Newton, *The Scriptorium and Library at Monte Cassino, 1058–1105* (Cambridge: Cambridge University Press, 1999).

² For Haly Abbas, see Françoise Micheau, 'Alī ibn al-'Abbās al-Maḡūsī et son milieu', in *Constantine the African*, ed. by Burnett & Jacquart, pp. 1–15; Raphaela Veit, 'Al-Maḡūsī's *Kitāb al-Malakī* and its Latin Translation ascribed to Constantine the African: The Reconstruction of *Pantegni*, *Practica*, Liber III', *Arabic Sciences and Philosophy*, 16 (2006), 133–68 (p. 134); Lutz Richter-Bernburg, 'Alī B. 'Abbās Majūsī', in *Encyclopædia Iranica*, 1/8, <http://www.iranicaonline.org/articles/ali-b-abbas-majusi> (originally published 1985, last updated 2011, accessed 9 September 2022).

Each part contained ten books. The Latin translation was modelled on this same structure, but was not an entirely faithful translation, especially in the second half of the text, only partially translated by Constantine.³ The *Pantegni* rapidly gained a pivotal status as the central textbook at the first European medical schools and universities. Other Salernitan medical authors and later encyclopaedists frequently cited and quoted Constantine's work, and it had influence on the works of, for example, William of Conches.⁴ Around 130 manuscripts of the *Pantegni* survive—a remarkable number—and the work was printed twice in the sixteenth century.⁵

Yet in spite of its durable success, only a few decades after Constantine's death his *Pantegni* was challenged both by a new translation of the original Arabic text and also, it would seem, by a revision of his own translation. In 1127, Stephen of Antioch heavily criticized Constantine for plagiarism and

³ Constantine was the author of the *Theorica*, whereas the *Practica* was compiled later and in stages, it appears, by Constantine and his followers. For the gradual construction of the *Practica*, see the two blog posts by Monica H. Green: 'The *Pantegni's* Progress' (18 September, 2017), <https://400-blogg.uu.se/2017/09/18/pantegni-english/> (accessed 21 June 2022); "But of the *Practica* of the *Pantegni* He Translated Only Three Books, for It Had Been Destroyed by the Water": The Puzzle of the *Practica*' (22 March 2018), <https://constantinusaffricanus.com/> (accessed 13 October 2021). See also Monica Green, 'The Re-Creation of *Pantegni, Practica*, Book VIII', in *Constantine the African and 'Alī ibn al-'Abbās al-Mağūsī*, ed. by Burnett & Jacquart, pp. 121–60; Mary F. Wack, 'Alī ibn al-'Abbās al-Mağūsī and Constantine on Love, and the Evolution of the *Practica Pantegni*', in *ibid.*, pp. 161–202; Veit, 'Al-Mağūsī's *Kitāb al-Malakī*'; Enrique Montero Cartelle & Ana Isabel Martin Ferreira, 'Le *De elephantia* de Constantin l'Africain et ses rapports avec le *Pantegni*', in *Constantine the African and 'Alī ibn al-'Abbās al-Mağūsī*, ed. by Burnett & Jacquart, pp. 233–46; Iolanda Ventura, 'Lo sviluppo della farmacopea salernitana ed il ruolo del *Corpus Constantinianum*: Per una *mise au point*', *Medicina nei Secoli, Arte e scienza*, 30 (2018), 641–86.

⁴ For Constantine's works and their influence on other authors and texts within the School of Salerno and beyond, see Mark Jordan, 'Medicine as Science in the Early Commentaries on "Johannitus"', *Traditio*, 43 (1987), 121–45 (pp. 137–44); Mary Frances Wack, *Lovesickness in the Middle Ages: The 'Viaticum' and its Commentaries* (Philadelphia, PA: University of Pennsylvania Press, 1990); Italo Ronca, 'The Influence of the *Pantegni* on William of Conches's *Dragmaticon*', in *Constantine the African and 'Alī ibn al-'Abbās al-Mağūsī*, ed. by Burnett & Jacquart, pp. 266–85; Danielle Jacquart, 'Les emprunts de Guillaume de Conches aux théories médicales', in *Guillaume de Conches: Philosophie et science au XIIe siècle*, ed. by Barbara Obirst and Irene Caiazzo, Micrologus' Library, 42 (Florence: Sismel – Edizioni del Galluzzo, 2011), pp. 79–110; Ventura, 'Lo sviluppo della farmacopea salernitana'; Monica H. Green, 'Gloriosissimus Galienus: Galen and Galenic Writings in the 11th- and 12th-Century Latin West', in Brill's *Companion to the Reception of Galen*, ed. by Petros Bouras-Vallianatos and Barbara Zipsler (Leiden: Brill, 2019), pp. 319–42; Monica H. Green, 'Medicine in France and England in the Long Twelfth Century: Inheritors and Creators of European Medicine', in *France et Angleterre: manuscrits médiévaux entre 700 et 1200*, ed. by Charlotte Denoël and Francesco Siri, *Bibliologia*, 57 (Turnhout: Brepols 2020), pp. 363–88; Outi Kaltio, 'Textual History of Constantine the African's *Pantegni, Theorica* in Light of ms. Helsinki, National Library of Finland, Eö.II.14', *Revue d'histoire des textes*, 15 (2020), 289–319 (p. 292); Gad Freudenthal, Michael McVaugh, and Katelyn Mesler, 'Twelfth-Century Latin Medicine in Hebrew Garb: Doeg the Edomite as a Cultural Intermediary', *Medieval Encounters*, 26 (2020), 226–84 (esp. pp. 236–42). See also the blog *Constantinus Africanus*, ed. by Monica Green and Brian Long, constantinusaffricanus.com.

⁵ A modern, comprehensive edition is still waiting to be done. The catalogue published in 1994 in *Constantine the African and 'Alī ibn al-'Abbās al-Mağūsī*, ed. by Burnett & Jacquart, pp. 319–51, lists 108 manuscripts of the *Pantegni* in total. The number of witnesses has been growing since, as new (partial) copies of the text have been identified, by Monica Green in particular. For an overview on the manuscripts and the two renaissance editions, printed in Lyon and Basel, see Mark Jordan, 'The Fortune of Constantine's *Pantegni*', in *Constantine the African and 'Alī ibn al-'Abbās al-Mağūsī*, ed. by Burnett & Jacquart, pp. 286–98.

excessive abridgement and revision of Haly Abbas's original Arabic text, and put together an entirely new, more literal (and complete) translation: this is known as the *Liber regalis*, or the *Regalis dispositio*.⁶ Constantine's *Pantegni*, or more precisely its section *Theorica*, was joined by the work of another author, who circulated an emended text: a revised version of the *Theorica*, with numerous additional short passages originating mostly, it appears, in Haly Abbas's Arabic, emerged in the first half of the twelfth century at the latest.⁷ What is more, this version also involved a stylistic revision of the text, the focus of the present paper. In the course of time, although the revised version did not gain a firm foothold as such, many of its readings made their way into a subsequent branch of the transmission, to a degree that varies from book to book and chapter to chapter.⁸ Ultimately, one of *Theorica*'s two sixteenth-century editions, that printed at Lyon in 1515 (hereafter the Lyon edition),⁹ reproduces features of the revised version, as will be demonstrated below. The ambition of the present paper is to demonstrate and assess the nature and extent of the stylistic revision and to illustrate the redactor's approach to the text: their editorial strategies, and their reasons for embarking on what amounted to a large-scale revision of Constantine's *magnum opus*.

Previous studies

Of some 130 copies of the *Pantegni*, around eighty, whole or partial, manuscripts convey the *Theorica*. Some of them also include the *Practica* or parts

⁶ In his *Regalis dispositio*, Stephen states: *in libri prologo et in aliis multa pretermisit pluribus necessaria locis multorumque ordines commutans nonnulla aliter protulit, hoc uno tamen observato: nihil prorsus ex suis addidit* ('In the prologue of the work and in several other places he [Constantine] omitted many necessary passages, he changed their order and wrote some of them in a different way, observing this sole principle: he added nothing at all of his own'); *Regalis dispositio*, Lyon: Jacques Myt, 1523 [hereafter the Lyon 1523 edition], fol. 5rb, lines 11–15; translated by the present author. For the edition, see S. von Gültlingen, *Bibliographie des livres imprimés à Lyon au seizième siècle, Répertoire bibliographique des livres imprimés en France au seizième siècle*, tom. 1– (Baden-Baden: V. Koerner, 1992–), tom. 2, p. 137, no. 86. For Stephen of Antioch, see Charles Burnett, 'Antioch as a Link Between Arabic and Latin Culture in the Twelfth and Thirteenth Centuries', in *Occident et Proche-Orient: Contacts scientifiques au temps des croisades: Actes du colloque de Louvain-la-Neuve, 24 et 25 mars 1997*, ed. by Isabelle M. Draelants, Anne Tihon & Baudouin van den Abeele, *Réminiscences*, 5 (Turnhout: Brepols, 2000), pp. 1–78 (pp. 4–19); Charles H. Talbot, 'Stephen of Antioch', in *Complete Dictionary of Scientific Biography* (2008), Encyclopedia.com, <http://www.encyclopedia.com/doc/1G2-2830904154.html> (accessed 16 December 2021). For Constantine's alleged plagiarism, see Charles Burnett, 'The Legend of Constantine the African', in *The Medieval Legends of Philosophers and Scholars*, Micrologus, 21 (2013), pp. 277–94.

⁷ Kaltio, 'Textual History of Constantine the African's *Pantegni*, *Theorica*', pp. 299–302, 313; Outi Kaltio, with the assistance of Ilkka Lindstedt, 'Constantine the African's *Pantegni*: The Evolution of *Theorica*, Book V', *Journal of Medieval Latin*, 32 (2022), 155–208.

⁸ Kaltio, 'Textual History of Constantine the African's *Pantegni*, *Theorica*', pp. 302–305 and Table 2 (p. 319).

⁹ *Pantegni*, in *Omnia opera Ysaac*, Lyon: Jean de La Place for Barthlémy Trot, 1515, vol. 2, fols. 1r–144r (*Theorica* and *Practica*); see von Gültlingen, *Bibliographie des livres imprimés à Lyon*, tom. 2, p. 32, no. 27; see also Jordan, 'Fortune of Constantine's *Pantegni*', pp. 288–90. A copy of the Lyon edition in the Bayerische Staatsbibliothek in Munich is available online: <http://daten.digital-sammlungen.de/~db/0001/bsb00011439/images/>.

of it, while others contain only the *Theorica*.¹⁰ My collations of a total of fifty-nine *Theorica* manuscripts and of the two sixteenth-century editions (Lyon 1515, Basel 1539)¹¹ have shown that three early manuscripts of the twelfth century stand out from the others in having a peculiar style and short additional passages that are missing from the more typical textual version (hereafter referred to as the standard version).¹² The manuscripts in question are Basel, Öffentliche Bibliothek der Universität, MS D.III.17 (s. xii^{med.}, Italy?); Paris, Bibliothèque nationale de France, MS lat. 7042 (s. xii¹–xiii¹); and Rome, Biblioteca Universitaria Alessandrina, MS 171 (s. xii^{ex.}). These manuscripts and their textual version stand at the centre of the present study. Even though the standard version appears to have been dominant also in the thirteenth and fourteenth centuries, the text of the *Theorica* was transformed by the effect of the twelfth-century revision. In a branch of the standard version, expressions deemed better as well as passages adding substance were picked from the revised version and merged.¹³ The revised version retained significance until the point in the sixteenth century when it was empanelled in print, in what is still a standard edition of the text: the Lyon edition of 1515 reproduces the revised version in some chapters and combines and edits readings from both versions.¹⁴

In identifying the revision of the *Theorica*, my study of another *Pantegni* manuscript, and especially its marginal additions, has been crucial. The manuscript in question is Helsinki, National Library, MS E.ö.II.14 (s. xii³).¹⁵ Principally, the manuscript represents the standard version of the

¹⁰ For the *Pantegni* manuscripts, see n. 5 above. As Constantine was not able to translate the *Practica*, at least not in its entirety, and the work was only compiled later and in stages, the textual tradition of the *Pantegni* splits into more than one distinct transmission (see n. 3 above; also Jordan, 'Fortune of Constantine's *Pantegni*', pp. 291–93). The focus of my own research is the *Theorica*. I understand, however, that the revision of the *Theorica* in the first half of the twelfth century (at the latest) is not completely unrelated to the complex tradition of assembling the *Practica* from bits and pieces.

¹¹ *Pantegni*, in *Constantini Africani Operum reliqua*, Basel: Henricus Petrus, 1539, pp. [i]–346 (*Theorica*). For the Basel edition, see Jordan, 'Fortune of Constantine's *Pantegni*', pp. 286–90. A copy of the Basel edition is available online via the Bibliothèque Interuniversitaire de Médecine (Paris): <https://www.biusante.parisdescartes.fr/histmed/medica/cote?o0128x02>.

¹² Kaltio, 'Textual History of Constantine the African's *Pantegni, Theorica*', esp. pp. 299–302; Kaltio, 'Evolution of *Theorica*, Book V'.

¹³ Kaltio, 'Textual History of Constantine the African's *Pantegni, Theorica*', pp. 302–5.

¹⁴ For example, in *Theor.* V.21 and in our edited chapter V.34 (see below) the Lyon edition reproduces the revised version, even though in, for example, I.11 and V.12 it follows the standard version more closely. See also n. 27 below.

¹⁵ A complete electronic facsimile and transcription of the Helsinki manuscript are available online: *Constantine the African, Theorica Pantegni: Facsimile and Transcription of the Helsinki Manuscript (Codex Eö.II.14)*, ed. by Outi Kaltio, in collaboration with Heikki Solin and Matti Haltia (Doria, Digital Collections of the National Library of Finland, 2011), <http://urn.fi/URN:ISBN:978-952-10-7055-6>. The resource also provides codicological data and an introduction, and it includes an edition of the *Theorica*, Books II to X.11, thus representing the most extensive modern publication of the *Pantegni* so far. For more detailed codicological information on the Helsinki manuscript, see Outi Merisalo, 'The Twelfth-Century Manuscript of Constantine the African's *Theorica Pantegni*', in *Ipsissima verba: Essays in Honour of Johann Rammingen*, ed. by Giancarlo Abbamonte, Minna Skafte Jensen & Marianne Pade, *Nordic Journal of Renaissance Studies*, 19 (2022), 163–9.

Theorica (or, for Book V, an incomplete ‘Ur’-version).¹⁶ Yet its text was supplemented with additions in the margins. The Helsinki manuscript was copied by two contemporary scribes, who drew on two (or more) different exemplars: the second scribe took over from the first in the middle of Book IX of the *Theorica* and wrote to the end. The second scribe also made additions here and there in the margins to earlier portions of the text. These additions number 105 in total, and their length varies from one word to a passage of more than seventy. In previous studies I have shown that the additions derive mainly from, and are typical of, the twelfth-century revision, for these passages are missing from the standard version.¹⁷ Further collations of the additions with Stephen of Antioch’s literal translation and, for Book V, directly with Haly Abbas’s original text in Arabic, indicated that most additions stem from the Arabic original.¹⁸ Constantine’s habitual method of translation, apparent also in his other works, was to abbreviate and paraphrase: he often omitted individual words and passages, while retaining the meaning.¹⁹ In contrast, it appears that our redactor restored passages that Constantine had omitted. Constantine’s original omissions

¹⁶ The *Ur*-version of Book V has come down to us in two manuscripts: Helsinki, and Paris, BnF, lat. 6886 (s. xiii). The *Ur*-version lacks passages which Constantine appended to his final version at a later stage. For a detailed analysis, see Kaltio, ‘Evolution of *Theorica*, Book V’.

¹⁷ For Book V, the situation is more complex, as some of the additions are already present in the standard version, whereas the rest have their origin in the revised version; see Kaltio, ‘Evolution of *Theorica*, Book V’ for a detailed analysis. Also, around twenty of the total 105 additions in MS Helsinki have resulted from the second scribe’s correcting of inadvertent omissions by the first scribe. As such, these additions do not play any part in defining different versions (see Kaltio, ‘Textual History of Constantine the African’s *Pantegni*, *Theorica*’, p. 298; Kaltio, ‘Evolution of *Theorica*, Book V’, pp. 169, 201–203).

¹⁸ Kaltio, ‘Evolution of *Theorica*, Book V’, pp. 166–67, 172–74, 193–97, 199–200; Kaltio, ‘Textual History of Constantine the African’s *Pantegni*, *Theorica*’, pp. 309–13; see also below in the present paper, pp. 439–40.

¹⁹ As Mary Wack puts it, ‘Constantine has achieved concision without loss of essential information’ (referring to IX.7 in the *Pantegni*, *Theorica*, compared with Stephen of Antioch’s translation of that same chapter); Wack, ‘Alī ibn al-‘Abbās al-Maḡūsī and Constantine on Love’, p. 165. See also, for example, Danielle Jacquart, ‘À l’aube de la renaissance médicale des XI^e–XII^e siècles: L’“Isagoge Johannis” et son traducteur’, *Bibliothèque de l’École des chartes*, 144 (1986), 209–40; repr. in Danielle Jacquart, *La science médicale occidentale entre deux renaissances (XII^e s.–XV^e s.)*, Variorum Collected Studies Series, 567 (Aldershot: Variorum, 1997); Raphaela Veit, *Das Buch der Fieber des Isaac Israeli und seine Bedeutung im lateinischen Westen: Ein Beitrag zur Rezeption arabischer Wissenschaft im Abendland* (Stuttgart: Franz Steiner Verlag, 2003), p. 190; Charles Burnett, ‘*Verba Ypocratis preponderanda omnium generum metallis*. Hippocrates on the *Nature of Man* in Salerno and Montecassino, with an Edition of the Chapter on the Elements in the *Pantegni*’, in *La Scuola Medica Salernitana: Gli autori e i testi*, ed. by Danielle Jacquart & Agostino Paravicini Bagliani, Edizione Nazionale ‘La Scuola Medica Salernitana’, 1 (Florence: Sismel, Edizioni del Galluzzo, 2007), pp. 59–92 (p. 64); Enrique Montero Cartelle, *Liber Constantini de stomacho: El tratado Sobre el estómago de Constantino el Africano: Estudio, edición crítica y traducción* (Valladolid: Ediciones Universidad de Valladolid, 2016), pp. 21–26; *Ibn al-Jazzār’s Zād al-musāfir wa-qūt al-hādir. Provisions for the Traveller and Nourishment for the Sedentary. Books I and II: Diseases of the Head and the Face*, ed. Gerrit Bos, Fabian Käs, and Michael R. McVaugh, *Islamic History and Civilization*, 190 (Leiden: Brill, 2022), pp. 668–69: ‘a systematic policy of selection and condensation seems to have been applied to the text [i.e. the *Viaticum*] in the translation process’.

were usually intended to avoid repetition and redundancies.²⁰ Also, in these cases the redactor's aim seems to have been to bring the text of the Latin *Theorica* closer to Haly's original text. In the end, both the restoration of passages and the stylistic revision point in the same direction: the redactor's ambition to clarify Constantine's expression.

The different stylistic features of some witnesses of the *Theorica* is something that has been noticed in previous work. The extent, dating, and the significance of this textual variation has not, however, been discussed. Gudrun Vuillemin-Diem noted the differing style of MS Paris lat. 7042 in her collation of *Theor.* III.13 *De oculis* with it and the Basel edition of 1539, and another manuscript from Paris (BnF, lat. 14393). According to her, '[MS Paris lat. 7042] bietet eine zwar inhaltlich entsprechende, aber stilistisch relativ stark abweichende Redaktion'.²¹ The volume edited by Charles Burnett and Danielle Jacquart in 1994 included many important individual contributions, two of which are especially pertinent to this paper.²² Mark Jordan observed that the Basel edition descended 'from a more typical exemplar [than the Lyon edition]', and that the Lyon edition depended 'more importantly on inferior and idiosyncratic manuscripts'.²³ This showed awareness of the existence of one or more revised versions alongside the standard version. Jordan did not, however, identify the earliest manuscripts containing the revised version, attributing the revisions instead largely to the Lyon editor, Andreas Turinus de Piscia (1473–1543).²⁴

In the same volume, Charles Burnett edited *Theor.* IV.19 *De spiritibus* from manuscripts representing two major branches of transmission. He described the style of the second branch as a 'revised ... more flowing and "open" style of Latin', noting, for example, 'perfect passive participles ... changed into finite verbs'.²⁵ This resonates very well with my own

²⁰ See Gerrit Bos, 'Ibn al-Ğazzār's *Risāla fīn-nisyān* and Constantine's *Liber de oblivione*', in *Constantine the African and 'Alī ibn al-'Abbās al-Mağūsī*, ed. by Burnett & Jacquart, pp. 203–32; see also Kaltio, 'Evolution of *Theorica*, Book V' for a detailed analysis of the omissions/additions in Book V of the *Theorica*.

²¹ Gudrun Vuillemin-Diem, 'Anonymus Normannus (Mahieu le Vilain): *Super meteora* II.9–III. Zur Identifizierung des Autors, zur Egenart des Textes, mit einer Edition von zwei Kapiteln der noch unveröffentlichten Schrift', *Recherches de théologie et philosophie médiévales*, 71 (2004), 1–130 (p. 53 n. 95).

²² *Constantine the African and 'Alī ibn al-'Abbās al-Mağūsī*.

²³ Jordan, 'Fortune of Constantine's *Pantegni*', pp. 290, 301. The Basel edition conveys the *Theorica* alone, whereas the Lyon edition also includes the text of the (reconstructed) *Practica*. For the editions, see Jordan, *ibid.*, pp. 286–90.

²⁴ Jordan, 'Fortune of Constantine's *Pantegni*', p. 289: '[The Lyon edition] ... betray[s] systematic stylistic correction. Word order is adjusted; coordinating conjunctions are inserted; technical terms are altered and conversational repetitions eliminated.'

²⁵ Charles Burnett, 'The Chapter on the Spirits in the *Pantegni* of Constantine the African', in *Constantine the African and 'Alī ibn al-'Abbās al-Mağūsī*, ed. by Burnett & Jacquart, pp. 99–120 (p. 106).

observations on the style of the revised version of the *Theorica*.²⁶ Burnett did not, however, consider the three twelfth-century manuscripts at the centre of the present study, but he drew on later manuscripts from the thirteenth and fourteenth centuries. These were MSS London, British Library, Sloane 3481 (s. xiii); Paris, BnF, lat. 6885 (s. xiv¹) and nouv. acq. lat. 1485 (s. xiv), and the Lyon edition. My collation of that same chapter (*Theor.* IV.19) with the said three twelfth-century manuscripts, Basel, Paris lat. 7042 and Rome, showed that the principal differences noted by Burnett in his second branch against the standard version had already emerged in the course of the first half of the twelfth century.²⁷

Hence, Burnett's results are demonstrative of the impact of the twelfth-century revision on thirteenth- and fourteenth-century transmission and on the Lyon edition. What is also significant, Burnett pointed out a passage that is not yet present in the twelfth-century manuscripts: a long quotation from the *pseudo*-Galenic work *De spermate*, inserted in *Theor.* IV.19 in Burnett's second branch.²⁸ As far as the manuscripts bear it out, there was an interest in emending the Latin *Theorica* with the introduction of new materials in the thirteenth century, possibly also in the fourteenth. This study concentrates, however, on stylistic revisions made within some decades after Constantine's death.

In what follows I will first discuss the extent of the stylistic revision of the *Theorica*, and introduce the manuscripts and the two sixteenth-century editions collated for this study. Then the evidence for the propositions outlined above will be presented through collation of the standard version, i.e. the version authored by Constantine himself, and the revised version of a chapter of the *Theorica*. In order to demonstrate that the editorial strategies observable in the selected chapter were not exclusive to it, I offer selected parallel examples from elsewhere in the *Theorica*; these are collated

²⁶ See Kaltio, 'Textual History of Constantine the African's *Pantegni, Theorica*', pp. 301–302, 305, and in what follows in the present paper.

²⁷ The text of the three twelfth-century manuscripts is not, however, identical with Burnett's later manuscript family, as the later manuscripts and the Lyon edition seem to combine readings from both the standard version and the revised version. At times Burnett's later version keeps the reading of the standard version (1), whereas at times it prefers the word-choice of the revised version (2). Sometimes it even introduces new readings (3). For example: (1) *spiritualem virtutem augmentans atque regens actionesque eius custodiens* (the standard version plus Burnett's later version), against *spiritualem regit et augmentat uirtutem et eius actiones custodit* (the twelfth-century revision); (2) *Horum enim septem moderationibus* (the standard version), against *His enim vii temperatis rebus* (the twelfth-century revision plus Burnett's later version); (3) *ibi immorans implicitus* (the standard version), against *in eius implicationibus immoratur* (the twelfth-century revision), against *in eiusdem multipliciter immoratur* (Burnett's later version). See also Kaltio, 'Textual History of Constantine the African's *Pantegni, Theorica*', pp. 302–305.

²⁸ See discussion in Burnett, 'Chapter on the Spirits'. For the *De spermate*, see Outi Merisalo, 'The Early Tradition of the Pseudo-Galenic *De spermate* (Twelfth–Thirteenth Centuries)', *Scripta*, 5 (2012), 99–109; Outi Merisalo, 'La trasmissione del *De spermate pseudo-Galenico*', *Medicina nei secoli*, 25 (2013), 927–40. See also the website containing a transcription of the text: Outi Merisalo, Päivi Pahta, *De spermate: The Site*, <http://staff.jyu.fi/Members/merisalo/despermate> (accessed 19 May 2022).

in the same fashion. Finally, I will discuss the authorship of the revision and its intended use.

The extent of the stylistic revision of the Theorica

The evidence for revision is stronger in the first half of the *Theorica* than in the latter half. This applies to both the 'extra' passages as well as to the grammatical streamlining. As to the extra passages, all three of the twelfth-century manuscripts at the centre of the present study include them in the first half of the work (Books II to V).²⁹ In Book VI, MS Paris does not include as many of the additional passages as MSS Basel and Rome. In Books VII to IX, only Rome includes additional passages (the manuscript is missing most of Book IX, and Book X completely).³⁰ Also, in the case of the stylistic revision, sample collations between our three twelfth-century manuscripts and the standard version showed that the evidence for revision is weaker and less consistent in the latter half of the *Theorica* (even though the measure of adaptation can vary from chapter to chapter in the first half as well). This can indicate either contamination in our manuscripts, or that the revising of the latter half was never completed.

For these reasons, study of the revision is better focused on the first half of the *Theorica*. The chapter selected for collation derives from *Theorica's* Book V. The reason for selecting this particular book is firstly that it is present in all of the three manuscripts which preserve the revised version (Basel, Paris and Rome), as well as in MS Helsinki, the insertions in which have been the starting point for my study of the revision. Helsinki lacks Book I, whereas Basel lacks Book II in part and Book III entirely.³¹ Secondly, Book V has been at the centre of my research, as it bears evidence for an earlier revisional stage besides the twelfth-century revision, namely, the completion of the preliminary stage (the *Ur*-version).³² Book V may have been the first book of the *Theorica* Constantine translated, and it appears to have received the most revision. The book deals with one of the most important themes of the work, the *res non naturales*, 'the non-natural

²⁹ The occurrence of the 'extra' passages in different books of the *Theorica* was studied by Kaltio, 'Textual History of Constantine the African's *Pantegni, Theorica*'; see especially Table 2, p. 319. The table is missing the information for Book I, because that book is missing from MS Helsinki and was therefore not collated. Note also that MS Basel is missing a part of Book II and the whole of Book III.

³⁰ MS Rome is lacking most of Book IX and the whole of Book X. The earliest witness for the extra passages in Books VII to X is actually MS Helsinki. The manuscript derives from the third quarter of the twelfth century, thus being somewhat earlier than Rome. For other witnesses for the additional passages in different books of the *Theorica*, see Kaltio, 'Textual History of Constantine the African's *Pantegni, Theorica*', especially Table 2, p. 319.

³¹ See Kaltio, 'Textual History of Constantine the African's *Pantegni, Theorica*', p. 301, for textual examples demonstrating the existence of the revised version in Books III and IV of the *Theorica* in MSS Paris and Rome (and, for Book IV, also in MS Basel).

³² See Kaltio, 'Evolution of *Theorica*, Book V'. See also above in the present paper, n. 16.

things', affecting health.³³ It is the second longest book of the *Theorica* (only Book IX, dealing with various ailments in different parts of the body, is longer). The non-natural things are described as the external or behavioural factors that can affect the mixture of humours and qualities in the body, whether for good or ill: air and environment, food and drink, motion and rest, sleep and wakefulness, evacuation and repletion (e.g. baths, intercourse, and digestion), and emotions.³⁴ The chapter whose collation I present is *Theor. V.34 De somno et vigiliis*, 'On sleep and wakefulness'.³⁵ The text-critical value of collating one full chapter of the *Theorica* is that it constitutes a narrative and as such it demonstrates in a straightforward way how the revision affected Constantine's text. As a result, one can more accurately appreciate the editorial approaches of our anonymous redactor.

The manuscripts collated: the standard version and the revised version

For the standard textual version of *Theor. V.34 De somno et vigiliis*, The Hague, Koninklijke Bibliotheek, MS 73 J-6 will always serve as our base text (cited here by the siglum Ha). Written in the monastery of Monte Cassino between about 1075 and about 1085, the volume is not only the oldest known survivor but it also stands in close proximity to Constantine himself. Erik Kwakkel and Francis Newton have argued persuasively that the manuscript was produced under Constantine's own supervision, and as such its text can be taken to represent his authorial voice more closely than other manuscripts.³⁶ The Hague manuscript is of good textual quality, in that obvious errors are very few, abbreviations are not numerous, and the punctuation is consistent and sound. The original eleventh-century unit con-

³³ Kaltio, 'Textual History of Constantine the African's *Pantegni*, *Theorica*', pp. 306–309; Kaltio, 'Evolution of *Theorica*, Book V', pp. 156–57, 162–65, 170–93. The concept of the non-natural things appears to have only recently emerged in Constantine's milieu, as the translation of the texts by Theophilus, Philaretus, and Hunayn ibn 'Ishāq (or Johannitius) and their incorporation into the *Articella* teaching collection of medicine took place in Monte Cassino in the last quarter of the eleventh century (see Peter H. Niebyl, 'The Non-Naturals', *Bulletin of the History of Medicine*, 45 (1971), 486–92 (p. 487); Green, 'Gloriosissimus Galienus', pp. 326–27). The new interest in the non-naturals may have prompted Constantine to translate Book V first from the *Kitāb al-malakī*, a chapter on precisely that subject. I thank Monica Green for this suggestion. See Outi Kaltio, *The Pantegni, Theorica of Constantine the African: A Text-Historical Study of the First Medical Compendium in the Latin West* (PhD diss., University of Helsinki, 2023), pp. 31–32, <http://urn.fi/URN:ISBN:978-951-51-9147-2>.

³⁴ See Luis García-Ballester, 'On the Origin of the "Six Non-Natural Things" in Galen', in *Galen und das hellenistische Erbe*, ed. by Jutta Kollersch & Diethard Nickel, *Sudhoffs Archiv Beihefte*, 32 (Stuttgart: Franz Steiner Verlag, 1993), pp. 105–15; Niebyl, 'The Non-Naturals'; see also Peter E. Pormann & Emilie Savage-Smith, *Medieval Islamic Medicine* (Edinburgh: Edinburgh University Press, 2007), pp. 44–45; and Kaltio, 'Evolution of *Theorica*, Book V', p. 163 and n. 25.

³⁵ For the content of this chapter and its afterlife, see Thomas Ricklin, *Der Traum der Philosophie im 12. Jahrhundert: Traumtheorien zwischen Constantinus Africanus und Aristoteles*, *Mittelalterliche Studien und Texte*, 24 (Leiden/Boston: Brill, 1998), pp. 102–107, 199–200, 267–68, 408–409, and *passim*; see also Jacquart, 'Les emprunts de Guillaume de Conches aux théories médicales', pp. 92–93.

³⁶ Kwakkel & Newton, *Medicine at Monte Cassino*. For the production of the Hague manuscript and for detailed codicological information, see pp. 59–82, 191–94 and *passim*. The manuscript is available online: <https://galerij.kb.nl/kb.html#/nl/liberpantegni/>.

tained the *Theorica* almost to the end of Book X. In the middle and in the second half of the twelfth century, the text of the *Theorica* was completed and recipes and excerpts from other medical texts added.

In order to demonstrate how the standard version was transmitted in the twelfth century, variant readings have been collected from two early manuscripts, both of high textual quality. These are London, British Library, MS Add. 22719 (cited here as L) and Cambridge, Trinity College, R. 14. 34 (906) (cited here as C).³⁷ Of the two, L is earlier, datable to c. 1110–1130. It contains the *Theorica* and the so-called *Ur-Practica*, i.e. Books I–II and the first part of Book IX,³⁸ as well as other shorter texts and some pharmaceutical recipes. According to Charles Burnett, the recipes have an English origin, and so does the manuscript: it was possibly written at Bath abbey (Somerset). The manuscript was carefully produced, and the rubrication and the use of colours, such as green dots, direct the reading consistently.³⁹ C was in the possession of Bury St Edmunds abbey (Suffolk) in the twelfth century (as was another copy of the *Pantegni*, now lost).⁴⁰ The text is finely written, and it was apparently compared and corrected with at least one other exemplar. The manuscript contains the *Theorica* only.

Another source for variant readings that demonstrate the standard version's transmission is the Basel edition (1539) (siglum *ba*).⁴¹ My collations have shown that its text follows the Hague text and other early manuscripts closely.⁴² Mark Jordan noted in the 1990s that 'The Basel edition ... agrees with readings in a much larger family of manuscripts [than the Lyon edition]', and that 'the Basel edition descends from a more typical

³⁷ For the London and Cambridge manuscripts, see the catalogue entries in *Constantine the African and 'Alī ibn al-'Abbās al-Maǧūsī*, ed. by Burnett & Jacquart, p. 320, no. 9; and pp. 342–43, no. 89. Both manuscripts are digitized and available online: http://www.bl.uk/manuscripts/FullDisplay.aspx?ref=Add_MS_22719 (MS London); <https://mss-cat.trin.cam.ac.uk/Manuscript/R.14.34> (MS Cambridge), accompanied by the catalogue description published by M. R. James in 1900–1904.

³⁸ For the construction of the *Practica*, see above, n. 3.

³⁹ Charles Burnett, 'Physics before the Physics: Early Translations from Arabic of Texts concerning Nature in MSS British Library, Additional 22719 and Cotton Galba E IV', *Medioevo*, 27 (2002), 53–109 (pp. 54–55). Reprinted with corrections in Charles Burnett, *Arabic into Latin in the Middle Ages: The Translators and their Intellectual and Social Context*, Variorum Collected Studies Series (Farnham: Routledge, 2009), § II; Charles Burnett, 'The 12th-century Manuscript of Constantine the African's *Liber Pantegni* in the British Library', a paper presented at the international conference *Constantine the African's Liber Pantegni: Transmission of Greek Medical Tradition to the Latin West via Byzantium and the Arabic World*, Helsinki, 6 June 2009.

⁴⁰ A list of books from Bury St Edmunds, probably written in the third quarter of the twelfth century (with later continuations), contains the entry 'Pantegni duo'; *English Benedictine Libraries: The Shorter Catalogues*, ed. by Richard Sharpe & others, Corpus of British Medieval Library Catalogues, 4 (London: British Library in association with the British Academy, 1996), B13 (p. 51), B13. 110 (p. 70); see also Rodney M. Thomson, 'The Library of Bury St. Edmunds Abbey in the Eleventh and Twelfth Centuries', *Speculum*, 47 (1972), 617–45 (esp. p. 634).

⁴¹ For the Basel edition, see n. 11 above.

⁴² Kaltio, 'Textual History of Constantine the African's *Pantegni, Theorica*', p. 299; Kaltio, 'Evolution of *Theorica*, Book V'; see also the edition of the chapter below.

exemplar',⁴³ thus corroborating my own view that the Basel edition can be seen as representing basically the standard textual version of the *Theorica*.

For relations between HaCLba, it will be sufficient to state the following. L contains a text very similar to Ha, devoid of only those few errors that our base text has, and committing a few errors and choices of its own. C differs from Ha more than L does. It is free of a few of Ha's errors, yet it shows transpositions of words and phrases and other minor differences, such as variation between singular and plural (e.g. *ut cibus digeratur* HaLba against *ut cibi digerantur* C; and *corpus cibus exinanitum* HaLba against *corpus cibo exinanitum* C), or chooses a different word (e.g. *illa* HaLba, *alia* C; and *ex noctium prolixitate* HaLba, *ex noctiua prolixitate* Cp.c.). As to our collated chapter V.34, in three cases the scribe of C, or a corrector, changed the word order 'back' to correspond with the word order in HaLba. The correcting hand also writes alternative singular/plural forms or verb moods *supra lineam*. As to *ba*, its text is very close to that of Ha, correcting, however, the few errors found in Ha and making a few errors and choices of its own (different to those of L).

As to the revised version, our base text is Basel, Öffentliche Bibliothek der Universität, MS D.III.17 (cited here by the siglum B). It is the oldest witness for the revision of our sample chapter: the manuscript, in a protogothic hand, belongs to the first half or middle of the twelfth century. The provenance is almost certainly continental Europe, probably Italy.⁴⁴ The lack of *capitula* numbers and rubrication indicates that the manuscript is unfinished.⁴⁵ The manuscript contains only the *Theorica* of the *Pantegni*.

Rome, Biblioteca Universitaria Alessandrina, MS 171 (siglum R) was made towards the end of the twelfth century, the work of three scribes. The manuscript contains the *Theorica* of the *Pantegni*, ending, however, at Book IX, chapter 2. The upper half of the volume is badly damaged from roughly the half-way point of Book VII to the end, and several folia are misplaced. The manuscript lacks chapter headings and *capitula* numbers.⁴⁶

The third manuscript witness to the revision is Paris, Bibliothèque nationale de France, MS lat. 7042 (siglum P).⁴⁷ The codicology is more complicated than is the case with the other manuscripts. P was written by three or more hands datable to the first half or middle of the twelfth century. The first hand betrays features of late Caroline minuscule; the others can be categorized as protogothic. In addition, a later hand of the beginning of the thirteenth century has written one replacement quire, covering the latter

⁴³ Jordan, 'Fortune of Constantine's *Pantegni*', pp. 290, 301.

⁴⁴ I am indebted to Outi Merisalo, Samu Niskanen, and Jesse Keskiäho for their advice in dating the Basel manuscript, as well as the Paris and Rome manuscripts.

⁴⁵ Kwakkel & Newton, *Medicine at Monte Cassino*, p. 172 n. 47.

⁴⁶ MS Rome Alessandrina 171 is available online via Manus Online, Manoscritti delle biblioteche italiane: https://manus.iccu.sbn.it/opac_SchedaScheda.php?ID=236087&lang=it.

⁴⁷ MS Paris lat. 7042 is available online: <https://archivesetmanuscrs.bnf.fr/ark:/12148/cc66212m>.

part of Book V and about half of Book VI. Our collated chapter V.34 *De somno et vigiliis* (fol. 51r–v) happens to be part of the stint of that later hand. None the less, it properly represents the revised version. The implication is that the exemplar was the same, or else it belonged to the same branch of the transmission.⁴⁸ What is perhaps most significant is that the first two hands may be even older than the hand of the Basel manuscript, thus pushing the *terminus ante quem* of the *Theorica's* textual revision still earlier into the first half of the twelfth century.

The fourth source for variant readings for the revision is the Lyon edition (1515) (siglum *lu*).⁴⁹ It reproduces sometimes the standard version, sometimes the revised, depending on book and chapter, and it also combines and edits readings from both versions.⁵⁰ As to our collated chapter V.34, the text of the Lyon edition is very much that of the twelfth-century revision.

As regards the relations between the witnesses for the revision, i.e. BPR*lu*, a brief observation will suffice here. Our base text B commits errors and omissions which the other three witnesses do not reproduce. P is the most original in its readings. R is closer to B on the one hand, but sometimes R deviates from all the others and agrees with the standard version (i.e. HaCL*ba*). It seems that the copyist(s) of R used at least two exemplars: the text basically represents the revised version, but at times readings deemed better were chosen from the standard version. As to *lu*, it is closest to P, agreeing with it and frequently standing against BR.

Textual variation within the group BPR*lu* implies that none of the witnesses descended directly from another. It must be emphasized, however, that in cases where the revised version differs most significantly from the standard version—i.e. in the cases which are the most relevant to my argument—these four witnesses are in agreement with each other.⁵¹ The fact that they all share the elements of the stylistic revision suggests that the revision was the result of a systematic reworking by a single redactor, rather than being the accumulation of various layers of scribal interventions over time in the course of transmission.

Theor. V.34: *the standard and the revised version*

The text of V.34 is given in Table 1 in both versions. Version 1 is given from Ha in the left-hand column, Version 2 from B in the right. Variant readings

⁴⁸ From Book VI onwards, the situation is more complex. In Paris lat. 7042, the stint of the thirteenth-century hand in Book VI (*Theor.* VI.1–18, fols. 53r–58v) includes only one ‘extra’ passage from the Arabic original, whereas MSS Basel and Rome include four extra passages in the corresponding section; see Kaltio, ‘Textual History of Constantine the African’s *Pantegni, Theorica*’, esp. pp. 300, 319. Also, the stylistic revision begins to waver from Book VI onwards, and the three manuscripts increasingly start to deviate from each other. Book VI seems to be somewhat of a borderline case and would require a separate study, as would the latter part of the *Theorica* (Books VII to X).

⁴⁹ For the Lyon edition, see n. 9 above.

⁵⁰ See Kaltio, ‘Textual History of Constantine the African’s *Pantegni, Theorica*’, pp. 302–305; also above in the present paper, nn. 14 and 27.

⁵¹ For the only significant exception in their agreement, see below, n. 65.

are supplied in the case of Version 1 from L, C and *ba*, for Version 2 from P, R and *lu*. In each case, the orthography of the base text has been followed. Obvious errors (which are only a few in the case of Ha) have been corrected with the help of the other witnesses; such interventions are indicated in the apparatus. Differences of word order in each version are noted, whereas orthographical variation goes unrecorded. For Version 1, punctuation and capital letters to indicate new sentences follow the practice of Ha, except for a very few instances in which I have slightly modified them to make the text flow better, at least for a modern reader. For Version 2, there is rather more in the way of modification of punctuation and use of capital letters for new sentences. The principal differences between the standard and the revised version are highlighted in boldface. Section numbers have been added to facilitate navigation and to provide for referencing.

TABLE I Comparisons of the text of *Theorica*, V.34 in Versions 1 and 2.

<i>Theor.</i> V.34, Version 1	<i>Theor.</i> V.34, Version 2
The Hague, 73 J-6 (Ha), fol. 35rb-35va	Basel, D.III.17 (B), fols. 86v-87v
Cambridge, Trinity College, R.14.34	Paris, BnF, lat. 7042 (P), fol. 51r-51v
(C), fol. 57r-57v	Rome, Alessandrina, 171 (R), fols.
London, BL, Add. 22719 (L),	80va-81rb
fol. 67r-67v	The Lyon edition (<i>lu</i>), fols. 24vb-25ra
The Basel edition (<i>ba</i>), pp. 137-138	
XXXIII De somno et uigiliis ¹	De somno et uigiliis ¹
[1] Cum de ciborum et potuum diuersitatibus satis et abunde ² tractauerimus , de somno et uigiliis hec comitantibus necessarius sequitur tractatus.	[1] Cum de ciborum et potuum satis et abunde tractauerim diuersitatibus, de somno et uigiliis, que ea² comitantur , necessarius ³ sequitur tractatus.
[2] Somnus ergo aut naturalis aut non naturalis. Naturalis huic nostro attinet tractatui. Non naturalis inter ³ illa ⁴ , que extra naturam sunt, ponendus erit. Somnus igitur naturalis ex temperata humiditate fit cerebri, et ex fumo humido atque claro, a toto corpore	[2] Somnus ergo ⁴ aut naturalis aut non naturalis. Sed naturalis huic nostro attinet tractatui ⁵ . Non naturalis ⁶ inter illa, que extra naturam sunt, ponendus erit. Somnus igitur naturalis ex temperata humiditate fit cerebri ⁷ , et ex fumo humido atque claro, a toto

¹De somno et uigiliis] *om.* C De sompno et uigiliis xxxv L De somno et uigiliis Cap. xxxiii *ba*² et abunde *om.* C ³intra *ba* ⁴illa] alia C

¹De somno et uigiliis] De sompno et uigiliis c. xli P *om.* R De somno et uigiliis Cap. cvi. *lu*, ²ea *Plu*] eos B hec R ³necessarius *PRlu*] necessariis B ⁴ergo BR] autem *Plu* ⁵attinet tractatui BP] tractui attinet R attinet tractui *lu* ⁶autem *add.* P ⁷Somnus igitur ... fit cerebri BR] Fit ergo sompnus ... cerebri P Fit igitur somnus ... cerebri *lu*

ad⁵ cerebrum ascendente. Vnde cum **cibamur**, et ciborum fumus cerebrum ingreditur, facile dormitamus.

[3] Fit autem somnus naturaliter⁶ propter duas res. Primo⁷, ut cerebrum cum sensibus a⁸ suorum motuum **quiesceret⁹ fatigationibus**. Vnde animalis uirtutis¹⁰ **actiones in somno sunt quiescentes**: uisus, auditus, gustus, odoratus, et motus uoluntarius. Actiones **autem** spirituales et naturales¹¹ in suo cursu¹² sunt **permanentes**. Dormientes **enim siue dormitantes¹³** non anhelitu priuantur¹⁴, neque digestiua uirtus amittitur. Quod ex arteriarum motu atque flatu comprobatur, et **quia¹⁵** comesta a dormientibus melius digeruntur.

[4] Secundo **somnus est necessarius¹⁶**, ut **cibus digeratur¹⁷**, **humores excoquantur**. Calor enim naturalis interiora petit corporis. Vnde quia in hieme magis dormitur ex noctium¹⁸ prolixitate, melius **digeritur** quam in alio tempore. **Naturalis autem uirtus intus operari comprobatur**, quia cum dormiamus¹⁹, magis operimur, et extremitates corporis **tunc** refrigerantur.

corpore ascendente⁸ in⁹ cerebrum. Vnde cum **cibamus¹⁰**, et ciborum fumus cerebrum¹¹ ingreditur, facile dormitamus.

[3] Fit autem somnus naturaliter propter duas res. Primo, ut **uidelicet¹²** cerebrum cum sensibus a **fatigatione** suorum motuum **quiesceret¹³**. Vnde animalis uirtutis **quiescent actiones¹⁴**, **cum somnus adest**: uisus **scilicet¹⁵** et¹⁶ auditus, gustus, odoratus, **atque¹⁷** motus uoluntarius. Acciones **uero** spirituales et naturales in suo cursu sunt **manentes**. Dormientes¹⁸ non¹⁹ anhelitu²⁰ priuantur, neque digestiua uirtus amittitur. Quod ex arteriarum motu atque flatu comprobatur, et **quod** comesta a dormientibus melius digeruntur.

[4] Secundo **fit somni necessitas²¹**, ut **cibus digeratur et humores excoquat²²**. Calor enim naturalis interiora **tunc** petit corporis. Vnde quia in hieme magis dormiatur²³ ex noctium prolixitate, melius **digerimus** quam in **quolibet** alio tempore. **Testatur naturalem calorem operari intus²⁴**, quia cum dormiamus, **neesse est** magis operiamur²⁵, et extremitates corporis **in multum dormientibus** refrigerantur.

⁵ a Ca.c. ⁶ naturaliter HaL] naturalis Cba uel liter supra lineam C ⁷Primo] Primum C uel o supra lineam C ⁸ad Ha.c. ⁹quiesceret CLba] quiescent Ha ¹⁰uirtutes Ha.c. ¹¹spirituales et naturales] naturales et spirituales Cp.c. ¹²suo cursu] cursu suo C ¹³dormitantes] dormientes Ca.c. ¹⁴anelitu priuantur HaCp.c.ba] priuantur anhelitu Ca.c. hanelitu priuantur L ¹⁵et quia Haba] quia et CL ¹⁶est necessarius] necessarius est Ca.c. ¹⁷cibus digeratur] cibi digerantur C ¹⁸noctiua Cp.c. ¹⁹dormimus C

⁸ascendente PRlu] ascendente B ⁹in BR] ad Plu ¹⁰cibamus BR] cibamur Plu ¹¹fumus cerebrum BPR] cerebrum fumus lu ¹²ut uidelicet BR] uidelicet ut Plu ¹³quiesceret BR] quiescat Plu ¹⁴quiescent actiones BPlu] actiones quiescent R ¹⁵uisus scilicet BR] scilicet uisus Plu ¹⁶et om. lu ¹⁷atque BR] om. P et lu ¹⁸Dormientes B] Dormientes enim Plu Dormientes enim siue dormitantes R ¹⁹non] si lu ²⁰anelitu P ²¹somni necessitas B] necessitas somni Plu somni necessitas et R ²²excoquat R] excoquat B coquat Plu ²³dormiatur B] dormitamus Plu dormimus R ²⁴Testatur naturalem calorem operari intus R] Testatur naturalem calorem opera intus B Vnde calor naturalis testatur operari intus Plu ²⁵operiamur Plu] operamur BR

[5] Actiones somni diuerse sunt duobus modis: secundum quantitatem temporis, secundum magnitudinem materie²⁰ quam inuenit in corpore. Secundum quantitatem temporis, quia si multus sit somnus, animata deficit uirtus, corpus humectatur et refrigeratur. Flegma maioratur, calor naturalis minuitur. **Si moderatus**, cibus digeritur, corpus inpinguatur, labor dissoluitur, animus confortatur, calor naturalis augmentatur, humores temperantur, mens clarificatur. **Si minor** quam oporteat²¹, animus et uirtutes naturalis²² et digestiua deficiunt, corpus desiccatur.

[6] Actiones somni ex **quantitate** materiae quam inuenit, quia si **cibus uel humores sint** indigestibiles, quorum sint quantitates²³ plus quam uirtus naturalis expostulet²⁴, cum calor intret²⁵ naturalis, **materiarum**²⁶ **magnitudines uincit et extinguit**, sicut uidemus in initio effimerinos²⁷ periodis²⁸. **Vnde** oportet, ut multum comedentes non antea dormiant quam ciborum stomachi²⁹ digestionem aliquantulam sentiant³⁰. Similiter febricitantes in horis accessionum dormire non oportet.

²⁰ materie C ²¹ oportet Ca.c. ²² naturalis Ha] naturales CLba ²³ quantitates Cba] qualitates HaL ²⁴ expostulet Haba] expostulat CL ²⁵ intret] uel at *supra lineam* C ²⁶ materierum C ²⁷ amfimerine C ²⁸ periodos ba ²⁹ stomachi om. L ³⁰ aliquantulam sentiant Lba] sentiant aliquantulum C aliquantulam sentiat Ha

[5] Acciones **quoque** somni diuerse sunt duobus modis: **aut** secundum quantitatem temporis, **aut** secundum magnitudinem²⁶ materie, quam in corpore inuenit. Secundum quantitatem temporis, quia si multus est somnus, animata deficit uirtus, corpus humectatur et refrigeratur. Flegma maioratur et calor naturalis minuitur. **Si autem somnus est moderatus**, cibus digeritur, corpus inpinguatur²⁷, labor dissoluitur, animus confortatur, calor naturalis augmentatur, humores temperantur, mens clarificatur. **Si autem minor est** quam oporteat, animus et uirtutes naturalis²⁸ et digestiua deficiunt, corpus desiccatur²⁹.

[6] Actiones somni ex **magnitudine sunt** materie quam inuenit³⁰, quia si³¹ **cibum**³² **aut humores inuenit** indigestibiles, quorum³³ sint³⁴ quantitates³⁵ plus quam uirtus naturalis expostulet³⁶, cum calor intret naturalis, **quod in dormiente maxime facit, magnitudine materie uincitur et extinguitur**³⁷, sicut uidetur in initio periodis effimerinos³⁸. **Et propter hoc** oportet, ut multum comedentes non antea dormiant quam ciborum stomachi aliquantulam digestionem³⁹ sentiant. Et similiter febricitantes in horis accessionum dormire non oportet.

²⁶ magnitudinem PRlu] magnitudine B ²⁷ inpinguatur PRlu] inpingatur B ²⁸ naturalis BR] naturales Plu ²⁹ exciccatur R ³⁰ sunt materie quam inuenit B] materie quam inuenit in corpore sunt Plu sunt materie quam inueniunt R ³¹ quia si] quasi Ba.c. ³² et *add.* B ³³ quorum Plu] quarum BR ³⁴ sint BR] sunt Plu ³⁵ quantitates PRlu] qualitates B ³⁶ naturalis expostulet BPlu] expostulet naturalis R ³⁷ magnitudine materie uincitur et extinguitur Plu] magnitudines uincit et extinguit B materiarum magnitudines uincit et extinguit R ³⁸ periodis effimerinos B] periodis amphimerine P periodis effimeros R periodis amphimerine lu ³⁹ digestionem PRlu] digestionem B

[7] Si corpus cibis³¹ exinanitum sit, calorque naturalis in interiora corporis redierit, substantialem humectationem exiccat³², cum nichil³³ aliud exiccandum³⁴ inueniat. Vnde calor naturalis minuitur et corpus refrigeratur. Si somnus cibos et humores inueniat³⁵ temperatos, calor naturalis interiora intrans corporis cibos digerit³⁶, humores temperatos reddit, corpus humectat, calefacit et impinguat. Hęc sunt actiones somni in corporibus³⁷ cuiuslibet animalis.

[8] Vigilię similiter quedam naturales, quedam sunt non naturales³⁸. De non³⁹ naturalibus tunc disputabimus, cum de causis⁴⁰ dicemus accidentibus. Vigiliis naturalibus uirtus naturalis atque corpus fatigantur, sed uirtus animata confortatur, quia calor naturalis corpus egreditur. Sensus et motus corporum confortantur⁴¹. Vigilię igitur refrigerant corpus intrinsecus, calefaciunt et exiccant⁴² extrinsecus. Quę si modum excesserint, calore augmentant, corpus exiccant⁴³.

[7] Si uero⁴⁰ corpus cibis exinanitur⁴¹, calorque⁴² naturalis⁴³ interiora corporis ingrediatur, substantialem humectationem exiccat, cum nichil aliud exiccandum⁴⁴ inueniat⁴⁵. Postque calor naturalis⁴⁶ minuitur et corpus refrigeratur. Si uero somnus cibos et humores inueniat temperatos, calor naturalis interiora intrans corporis cibos digerit⁴⁷, humores temperatos reddit, corpus humectat, calefacit et impinguat. He sunt actiones somni in corporibus cuiuslibet animalis.

[8] Vigilie similiter⁴⁸ quedam⁴⁹ naturales et quedam extra naturam. De his, que sunt extra naturam, tunc disputabimus, cum de rebus⁵⁰ causis dicemus accidentibus⁵¹. Naturales igitur uigilie uirtutem naturalem fatigant atque corpus. Virtus tamen animata confortatur, quia calor naturalis corpus egreditur⁵², et sensus atque motus corporum confortantur. Vigilię ergo corporis interiora refrigerant, exteriora uero calefaciunt⁵³ et exiccant. Que si sint plusquam oporteat⁵⁴, calor augmentatur, corpus exicat⁵⁵.

³¹cibo C ³²humectationem exiccat Haba] exiccat humectationem CL ³³nil Ca.c. ³⁴ exiccandum Haba] ad desiccandum C ad exsiccandum L ³⁵inueniat om. ba ³⁶digerit CLba] digeritur Ha ³⁷corporibus] uel pore supra lineam C ³⁸sunt non naturales Haba] non C non naturales L ³⁹non supra lineam C ⁴⁰causis] eorum Cp.c. ⁴¹confortantur Lba] confortatur CHa ⁴²exiccant ba] exiccat Ha exsiccant CL ⁴³desiccant C

⁴⁰uero BR] enim Plu ⁴¹exinanitur B] inanitur Plu exinaniatur R ⁴²calorque PRLu] dolorque B ⁴³in add. R ⁴⁴exiccandum Ba.c. ⁴⁵inuenit P ⁴⁶naturalis om. lu ⁴⁷digerit Rlu] digerat B digerit et P ⁴⁸similiter om. Plu ⁴⁹sunt add. Plu ⁵⁰rebus om. R ⁵¹dicemus accidentibus BR] accidentibus dicemus Plu ⁵²corpus egreditur BPlu] egreditur corpus R ⁵³calefaciunt BR] calescunt Plu ⁵⁴oporteat B] oporteat PRLu ⁵⁵corpus exicat B] corpus execat Ba.c. corpusque exsiccat Plu corpus exsiccat R

Textual and stylistic analysis

In general, the revised version is more verbose than the standard version: the edited chapter in the standard version has 436 words, the revised version has 475. There are only two instances in which the revised version adds new substance, absent from the standard version: *in multum dormientibus* [4], and

quod in dormiente maxime facit [6], counting as eight words altogether.⁵² All the remaining extra words of the revised version belong to different stylistic and grammatical expression, such as adding discourse connectives (such as *aut*, *autem*, *sed*, *uero*), or streamlining the syntax by loosening compressed grammatical constructions (such as turning present participles into subordinate clauses). In terms of expression, the revised version is simpler and flows more easily. To encapsulate the editorial strategy of our anonymous redactor, one might describe it as simplification by amplification. In what follows I discuss some of the principal features that differ between the two versions.

(1) *Aut–aut constructions*

Perhaps the most striking difference between the *Theorica*'s standard and revised version is the abundant use of discourse connectives in the latter. The first category is *aut–aut* ('or') constructions, which abound in the revision when introducing lists or alternatives. The standard version prefers *uel* ('or'), or other particles, or no word at all. For example, *secundum quantitatem temporis, secundum magnitudinem materie* (the standard version), as against *aut secundum quantitatem temporis, aut secundum magnitudinem materie* (the revised version) [5]; *si cibus uel humores sint indigestibiles*, as against *si cibum aut humores inuenit indigestibiles* [6].⁵³

It is true that the standard version does not entirely lack *aut–aut* constructions (see, for example, the beginning of section 2); neither does the revised version totally abandon the use of *uel* and *siue*. Yet the use of *aut* in the revised version is so substantial that it indicates a conscious preference for that conjunction when introducing lists or alternatives. Our collated chapter has five occurrences of *aut* in the revised version against two occurrences in the standard version (see sections 2, 5, and 6). *Theor.* IV.7 *De causa mortis* 'On the cause of death', for example, has around thirty-five occurrences of *aut* in the revised version against none in the standard. *Aut* acts almost as a signalling word in the revised version, designating lists or the introduction of alternatives, thus outlining the text and bringing clarity.

⁵² There is only one instance in our collated chapter where the standard version has more textual material than the revised version: where the standard version has *dormientes enim siue dormitantes*, the revised version has only *dormientes* [3]. The *siue dormitantes* seems to be a superfluous remnant of an alternative formulation in the earliest tradition: the choice between *dormientes* and *dormitantes* had not yet been made, and both words made their way into the subsequent transmission. In the revised version, which is otherwise more verbose than the standard version, the word *dormitantes* was omitted.

⁵³ Similar examples may be found in other books and chapters, such as IV.7: *ex corruptione cerebri siue spiritus in cerebro existentis, uel ex caloris naturalis corruptione* (the standard version), as against *aut ex corruptione cerebri, aut ex corruptione spiritus qui in cerebro consistit, aut ex corruptione caloris naturalis* (the revised version); and V.12: *Motus corporis uel sunt temperati uel intemperati* (the standard version), as against *Motus autem corporis aut sunt temperati aut intemperati* (the revised version) (in both examples, *lu* follows the standard version, however).

(2) *The substitution of the word unde*

Another feature of the revision in relation to discourse connectives is the change from *unde* ('whence', 'hence', 'therefore', 'for that reason') to *et propter hoc* ('and because of that', 'and for that reason'), or some other formulation. *Unde* is not entirely absent from the revised version, but its field of application is narrower than in the standard version. In our sample chapter, the standard version has five occurrences of *unde* [sections 2, 3, 4, 6, and 7]. Two of these are replaced in the revised version: to *et propter hoc* [6], and to *postque* [7].

The redactor preserved the word *unde* in three instances when it was used in the sense of 'hence' [2, 3, and 4]; in such a case the operative function is merely to bind the sentences together. The redactor also allowed the word *unde* to stay when its grammatical and/or semantic antecedent was sufficiently explicit. For example, *Neque etiam causas ignoret [medicus], unde mutetur aer* ('A doctor should not ignore *causes from which* the air changes') [V.2]; *Magnum est medicamentum qualitates aeris [...] cognoscere [...] Vnde ab aere incipiendum* ('It is a great remedy to know the qualities of the air [...] *From which [reason]* we shall start from the air') [V.2]. In contrast, the redactor appears to have substituted the word *unde*, when the causal sense of the word and its relation to what has been written above is not sufficiently transparent. In these cases, more explicit formulations, such as *et propter hoc* ('and for that reason'), and *et ita* ('and therefore'),⁵⁴ are used in the revised version. This semantic variation is sometimes only very slight, and, in the first instance, the word *unde* carries the meaning 'for that reason'. Yet the frequent substitution of the word *unde* reveals something about our redactor's sense of narrative: by substituting *unde* he or she again attempted to clarify syntactical relations of the sentences and to make the course of Constantine's argumentation as lucid as possible.

(3) *The augmentation of other discourse markers*

There are many other conjunctions and particles which have been added to the revised version here and there. As already stated, the increased word count of the revised version comes mainly from these kinds of editorial decisions. For example, *Naturalis [somnia] huic nostro attinet tractatui*, as against *Sed naturalis [somnia] huic nostro attinet tractatui* [2]; *Primo, ut cerebrum cum sensibus [...]*, as against *Primo, ut uidelicet cerebrum cum*

⁵⁴ For example, *Theor. V.12: Si quiescit [aliquis], clauduntur pori, humores coadunantur calidi. Vnde calefit corpus, veris febribus maxime, si aer nos circumdans sit frigidus* (the standard version), as against *Si autem quiescit [aliquis], clauduntur pori et humores coadunantur calidi. Et ita calescit corpus, veris febribus maxime, si aer, qui nos circumdat, sit frigidus* (the revised version; *lu* follows the standard version, however).

sensibus [...] [3]; *Actiones somni diuerse sunt duobus modis*, as against *Acciones quoque somni diuerse sunt duobus modis* [5]; and *Similiter febricitantes*, as against *Et similiter febricitantes* [6].⁵⁵

The use of *autem* ('but'), *tamen* ('however', 'yet'), and *vero* ('but', 'however', 'whereas') is notably more frequent in the revised version than in the standard version. In our sample chapter, the revised version has one occurrence of *tamen*, whereas the standard version uses *sed* ('but') instead: *Vigiliis naturalibus uirtus naturalis atque corpus fatigantur, sed uirtus animata confortatur, quia calor naturalis corpus egreditur*, as against *Naturales igitur uigilie uirtutem naturalem fatigant atque corpus. Virtus tamen animata confortatur, quia calor naturalis corpus egreditur* [8]. Here the redactor obviously lightened and clarified the grammatical structure of the sentence. The ablative of cause or agency (*Vigiliis naturalibus*) was modified to serve as the subject, and the reflexive passive voice (*fatigantur*) was turned into the active (*Naturales uigilie* [...] *fatigant*). The sentence was divided in two, so that *sed* from the beginning of the second sentence was omitted and the word *tamen* inserted to preserve the required concessive effect and underline the train of thought.

As to *vero*, the revised version has four occurrences in our edited chapter (see sections 3, 7, and 8), whereas the standard version has none.⁵⁶ The function is again to clarify the idea by adding an adversative particle with relation to what has been said earlier:

[6–7] Version 1: *si cibus uel humores sint indigestibiles, [...] Si corpus cibus exinanitum sit, calorque naturalis in interiora corporis redierit [...] Si somnus cibos et humores inueniat temperatos, [...]*

⁵⁵ The abundant use of *autem* ('but'), *tamen* ('however', 'yet'), and *vero* ('but', 'however', 'whereas') in the revised version of the *Theorica* may be compared to two other Arabic–Latin translations. The *Regimen sanitatis* of 'Avenzoar', translated at Montpellier in 1299 from an Arabic original first to Occitan vernacular and from that to Latin, survives in two Latin recensions, the latter being a systematic revision of the former. Adversative and concessive conjunctions are used more frequently in the revised Latin version than in the preliminary translation. It is argued by Michael R. McVaugh, Gerrit Bos and Joseph Shatzmiller (*The Regimen sanitatis of 'Avenzoar': Stages in the Production of a Medieval Translation*, *Études sur le judaïsme médiéval*, 79 (Leiden/Boston: Brill, 2019), pp. 14–15) that these kinds of conjunctions—which are largely lacking in Arabic—would work like modern punctuation, as they 'orient the reader to the way he is to move from one thought to the next'. The aim of the reviser would, therefore, have been to clarify the sequence of argument of the preliminary translation.

Another parallel case is the translation of the *Great Introduction to Astrology* by Abū Ma' shar, for which Hermann of Carinthia's classicizing Latin text of c. 1140 contains many more conjunctions—especially adversative and concessive ones, such as *autem*, *vero*, *sed*, *tamen*, *nihilominus*—than either the original Arabic text or John of Seville's literal translation. In Arabic, particles connecting sentences (*wa*, *fa*, 'and') are more ambiguous than those in Latin. In the words of Dag Nikolaus Hasse, 'classicizing translations from Arabic in general face the problem of introducing a logical order into the text which is not explicit in the Arabic'; Dag Nikolaus Hasse, 'Abbreviation in Medieval Latin Translations from Arabic', in *Vehicles of Transmission, Translation, and Transformation in Medieval Textual Culture*, ed. by Robert Wisnovsky, Faith Wallis, Jamie C. Fumo, Carlos Fraenkel (Turnhout: Brepols, 2011), pp. 159–72 (pp. 163–65).

⁵⁶ In section 3, *autem* in the standard version was replaced with *uero* in the revised version. In sections 7 and 8, *uero* was added to the text.

Version 2: si cibum aut humores [somnus] inuenit indigestibiles [...] Si **uero**⁵⁷ corpus cibus exinanitur calorque naturalis interiora corporis ingrediatur, [...] Si **uero** somnus cibos et humores inueniat temperatos, [...]

Here, the word *uero* in the revised version really adds clarity, especially when sections 6 and 7 are read as a whole. In contrast, the addition of *uero* in section 8 does not make a similarly successful impact: *Vigilię igitur refrigerant corpus intrinsecus, calefaciunt et exiccant extrinsecus*, as against *Vigilię ergo corporis interiora refrigerant, exteriora uero calefaciunt et exiccant*. The word-pair *intrinsecus*–*extrinsecus* in the standard version is effective and does not require any discourse markers to support the thought. Yet the redactor changed the adverbs *intrinsecus* and *extrinsecus* to substantives, *corporis interiora*–*exteriora*. With this change, some of the effectiveness of the original formulation was lost; symptomatically, the particle *uero* was brought in, in order to emphasize the juxtaposition.

It is clear that the abundant use of discourse markers in the revised version was meant to add emphasis to narrative connections. The addition of discourse connectives is perhaps the most important strategy employed by our redactor for clarifying Constantine's expression.

(4) *Participles as against subordinate clauses and finite verbs*

The redactor had further strategies for editing Constantine's text. A significant difference between the *Theorica*'s standard version and the revised version is that the former favours (present) participles, whereas the latter prefers subordinate clauses and finite verbs. In our sample chapter, the switch is seen on two occasions: *de somno et uigiliis hec [sc. cibos et potus] comitantibus*, as against *de somno et uigiliis, que ea [sc. cibos et potus] comitantur* [1]; *animalis uirtutis actiones in somno sunt quiescentes*, as against *animalis uirtutis quiescunt actiones, cum somnus adest* [3].

Participial constructions such as these may be seen as typical of more elegant, classicizing Latin, while subordinate clauses simplify grammatical structures by splitting sentences into smaller units. The use of subordinate clauses provides the sentences with markers which make the sentences easier to comprehend. The marker most frequently used by the redactor is, as one would expect, a relative pronoun, such as *que ea comitantur* (section 1). Yet conjunctives were applied to the same effect.⁵⁸ The dismantling of a participial construction, which makes a text more straightforward to read or listen to, usually leads to an increase in the word count. The result is a simpler and more streamlined style of Latin.

⁵⁷ *uero* BR] enim *Plu*

⁵⁸ For example, *Theor.* VI.1: *quodlibet ergo horum modum excedens extra naturam facit rem* (the standard version), as against *quorum ergo cum quodlibet excedat [excedit P] modum, rem facit extra naturam* (the revised version).

In section 3, the present participle is connected with the verb *esse* in the standard version: *animalis uirtutis actiones in somno sunt quiescentes*. The redactor substituted the construction with the finite verb *quiescunt*, and turned the temporal noun construction into a temporal subclause introduced by *cum*: *animalis uirtutis quiescunt actiones, cum somnus adest*. The result hardly flows better or is simpler than the original formulation. It may be noted that a resembling construction with a present participle + *esse* follows the previous one almost immediately. This was retained in the revised version with slight modification: *Actiones autem spirituales et naturales in suo cursu sunt permanentes / Acciones uero spirituales et naturales in suo cursu sunt manentes* [3]. Perhaps the redactor substituted the previous present participle + *esse* construction for stylistic reasons, to avoid two similar constructions appearing too close to each other. Participles have also been preserved as such here and there, especially when they are used as subjects.⁵⁹ This indicates that careful editorial consideration was used in their substitution.⁶⁰

(5) Passive as against active morphology

In our collated chapter, the passive (or deponent, or reflexive passive) verbs or constructions are several times turned into the active in the revised version. For example, *ut cibus digeratur, humores excoquantur*, as against *ut cibum [somnus] digerat et humores excoquat* [4]; *melius digeritur*, as against *melius digerimus* [4]. The turn can also be from the active morphology in the standard version to the passive (or deponent, or medio-passive) in the revised version: *sicut uidemus*, as against *sicut uidetur* [6]; *[uigilie] calorem augmentant*, as against *calor augmentatur* [8]. The evidence does not indicate consistency in the use of active or passive forms in the revision. On

⁵⁹ For example, the revised version preserves the present participle even though the word order and the preposition have been changed: *ex fumo humido atque claro, a toto corpore ad cerebrum ascendente*, as against *ex fumo humido atque claro, a toto corpore ascendente in cerebrum* [2]. For participles as subjects, see sections 3 (*dormientes*) and 6 (*multum comedentes*) in both versions. Sometimes the change can even be the other way round, i.e. from a subordinate clause in the standard version to a participle in the revised version, e.g. in *Theor. V.3: omnis putredo, cum uiam non inuenerit per quam erumpat, cito putrescit* (the standard version), as against *omnis putredo non inueniens uiam, per quam erumpat, cito putrescit* (the revised version). Here the redactor may have turned to the present participle to avoid the subjunctive perfect *inuenerit*.

⁶⁰ In the *Regimen sanitatis* of ‘Avenzoar’ (see above, n. 55), the tendency is the opposite: finite verbs in the preliminary translation are often turned into participial (and gerundive) constructions in the revised version. McVaugh, Bos, and Shatzmiller note that stylistic and rhetorical ‘improvements’ were made to the revision of the *Regimen sanitatis* ‘with the aim of matching its language to the needs and expectations of the academic community for which it was being composed’ (McVaugh, Bos, Shatzmiller, *The Regimen sanitatis of ‘Avenzoar’*, pp. vii, 12–13, 15–16, 48). The difference between the *Regimen sanitatis* and the *Theorica* is that the first draft of the former can be seen as more rudimentary than Constantine’s *Theorica*; the latter was refined and polished by a team of scribes and collaborators in the monastery of Monte Cassino, as argued by Erik Kwakkel and Francis Newton (*Medicine at Monte Cassino*, pp. 100, 105, 118, 153–54). Unlike the redactor of the *Regimen sanitatis*, the redactor of the *Theorica* needed not to ‘improve’ or polish Constantine’s expression; the objective was simplification.

occasion the redactor seems to have wished to dispose of difficult passive morphologies. For example, *cibamur* '(we) take food, eat' in the standard version was substituted with *cibamus* (see section 2). The operative denotation is the same but the active mode is somewhat more straightforward, which also had the same meaning and was lexically perhaps more approachable.⁶¹ On the other hand, *digerere* 'to digest' appears in the passive as well as in the active morphology in both the standard and the revised version.⁶²

Yet the passage in section 8, discussed already above, betrays a conscious effort to streamline the text by dismantling a (reflexive) passive construction. The ablative of cause or agency (*vigiliis naturalibus*) and the (reflexive) passive voice (*fatigantur*) were turned into subject and active voice (*Naturales uigilie [...] fatigant*). Irrespective of the redactor's occasional attempts to clarify the syntax by dismantling passive constructions, the switch from the passive to the active does not constitute an overarching strategy: a great deal of passive morphology has also been preserved intact, and at times such morphologies were even added.

In one instance, a switch from an active construction in the standard version to a passive construction in the revised version had a drastic effect on the meaning: *cum calor intret naturalis, materiarum magnitudines uincit et extinguit*, as against *cum calor intret naturalis, [...] magnitudine materie uincitur et extinguitur* [6]. The concept of the *calor naturalis* 'the innate heat' is central to the *Pantegni* and Galeno-Arabic medicine. It is connected with the complicated concept of different virtues and spirits controlling life processes, which are discussed in detail in *Theorica's* Book IV.⁶³ In relation to the theme of our sample chapter, i.e. sleep, the innate heat functions by entering the interior parts of the body and digesting the previously eaten food when one is asleep. In section 6, the standard version asserts that if the amount of the food to be digested is bigger than what the natural virtue requires, the innate heat, when entering the body, surpasses and extinguishes the material [of the food to be digested]. This in fact contradicts what comes next: 'Therefore, those who eat much, should not sleep before they can feel [at least] some amount of digestion of the food

⁶¹ Note, however, that only two witnesses of the revision, i.e. BR, write *cibamus*; *Plu* write *cibamur* and thus correspond with the standard version. The classical meaning of *cibare* (in the active) was 'to feed (animals)', but the active form was later also used in the meaning of 'to take food', besides the medium form *cibari*.

⁶² The medio-passive forms of the verb *digerere* have been substituted with active constructions in two instances in the revised version (see section 4), whereas one passive construction (section 3) and one medio-passive form (section 5) have been preserved.

⁶³ For the discussion of spirits in the *Theorica*, see Burnett, 'Chapter on the Spirits'. For the original concept of the innate heat in Galen—who is also the author Constantine constantly cites in the *Theorica*—see Richard J. Durling, 'The Innate Heat in Galen', *Medizinhistorisches Journal*, 23 (1988), 210–12.

[eaten]'.⁶⁴ The revised version is more logical here:⁶⁵ if the amount of the indigested food is bigger than what the natural virtue requires, the innate heat, when entering the body, *is surpassed and extinguished by the material* [of the indigested food]; this should be avoided by not sleeping until at least some digestion occurred. The redactor emended the incorrect reading of the standard version by changing the active construction into passive (*calor naturalis ... magnitudines uincit et extinguit*, as against *calor naturalis ... magnitudine materie uincitur et extinguitur*), and thus reversing the meaning of the sentence.⁶⁶ The switch was not about active/passive morphology in itself, but about emending an incorrect reading.

(6) Changes in wording

In revising Constantine's text, the redactor sometimes made different word choices. In section 4, 'the natural virtue' in the standard version was changed to 'the innate heat' in the revised version: *Naturalis autem uirtus intus operari comprobatur*, as against *Testatur naturalem calorem operari intus*. As discussed above, the two concepts are connected. In our collated chapter, *calor naturalis* is mentioned for the first time in the same section 4, stating that the innate heat enters the interior parts of the body, aiding digestion in wintertime, when people sleep more (than in summertime). Then follows the passage mentioned above on how the operation of the natural virtue / the innate heat inside the body can be proven. As *calor naturalis* has been mentioned just before, the reading of the revised version, i.e. *naturalis calor*, is more logical than the reading *naturalis uirtus* in the standard version; the revision provides a more coherent text.

Also in section 6, the change from *quantitate* to *magnitudine* complies with the text's internal logic more accurately than does the standard version. The preceding section reads *Actiones somni diuerse sunt duobus modis: secundum quantitatem temporis, secundum magnitudinem materie quam inuenit in corpore* ('The actions of sleep differ in two ways: according to the quantity of time [of sleep], [and] according to the amount of material which the sleep finds in the body') [5]. The redactor's change in section 6 from *ex*

⁶⁴ *Vnde/et propter hoc oportet, ut multum comedentes non antea dormiant quam ciborum stomachi digestionem aliquantulum sentiant* [6].

⁶⁵ It has to be stated that only *Plu* give the more logical, passive reading (*calor naturalis ... magnitudine materie uincitur et extinguitur*), whereas *BR* agree with the standard version and give the active reading.

⁶⁶ That the reading in the revised version is correct is supported by the original Arabic text. It reads *fa-taghbliuhā al-mādda idh kānat lā tufī u bi-taghyīrihā fa-tatfa' uhā*, 'the material overcomes it, as it does not succeed in transforming it, and extinguishes it'; 'Alī ibn al-'Abbās al-Maḡūsī, *Kāmil aṣ-ṣinā' a aṭ-ṭibbīya (al-Kitāb al-malakī)*, vol. 1 (Cairo: Būlāq, 1294/1877), p. 211. The referents in the middle of the passage in the original Arabic text (*idh kānat lā tufī u bi-taghyīrihā*, 'as it does not succeed in transforming it') are somewhat ambivalent, which might have caused the confusion in the *Theorica's* standard version. I thank Ilkka Lindstedt for checking and translating this passage for me from the *Kitāb al-malakī*.

quantitate materie to ex magnitudine materie makes the text consistent with what was written in the preceding section.

In section 8, the change from *vigilie non naturales* ('non-natural wakefulness') to *vigilie extra naturam* ('wakefulness outside the nature') demonstrates that the redactor could proceed with care, attentive to the wider contextual meaning. In the *Theorica*, the discussion of factors affecting health and illness is divided into *res naturales*, *res non naturales*, and *res extra naturam*, i.e. the natural and the non-natural things and the things external to [the individual patient's] nature, complying with the Galeno-Arabic concepts. The division occurs in the *Theorica* for the first time in Book I.3–4. The natural things were the internal components of the human body, such as the body parts (anatomy), the qualities and humours and their complexions, and the virtues and spirits mentioned above; all these are discussed in *Theorica* Books I to IV. As already mentioned, the non-natural things were the external factors affecting health, such as air, food and sleep among others things, discussed in Book V. The things outside the nature were illnesses with their causes and effects, discussed in Books VI to X. The three categories sometimes overlap in ways which may seem illogical: for instance, sleep and wakefulness were non-natural things, whereas our sample chapter affirms that there are two types of sleep, natural and non-natural, and that the non-natural sleep 'must be placed among the things outside the nature' [2]. Wakefulness is similarly divided into natural and non-natural in the standard version. Here the redactor changed the text: instead of non-natural wakefulness, they contrasted natural wakefulness directly with wakefulness outside the nature: *Vigilie similiter quedam naturales et quedam extra naturam. De his, que sunt extra naturam, tunc disputabimus, cum de causis dicemus accidentibus* ('Similarly, wakefulness can be natural or outside the nature. We will discuss wakefulness outside the nature when we deal with causes [and] effects [of illnesses]') [8].

It appears that the terms *naturalis* and *non naturalis* were used in the *Theorica* on more than one semantic level. The *res non naturales* are also sometimes confused with the *res extra naturam*, and sometimes even with the *res naturales*.⁶⁷ Scribal errors evidently added to this confusion in the course of transmission. By replacing the non-natural wakefulness with the wakefulness outside the nature the redactor tried to resolve the tension

⁶⁷ For example, in *Theor.* I.3, HaL, and even *ba*, write that the six non-naturals are natural things: *Quinta pars XXXV habet capitula scientiam rerum naturalium continentia, que sunt aer, motus et quies, cibus et potus, somnus et vigilie, inanitio et continentia, anime accidentia* (C adds *non* above the line, thus giving the correct reading, i.e. *rerum non naturalium*). Later, however, the same six things are correctly named as non-naturals (*Theor.* I.4): *Cause non naturales VI sunt: aer circumdans corpus humanum, motus et quies, cibus et potus, somnus et vigilie, inanitio et continentia, animeque accidentia*. The revised version (i.e. BPlu, as R is missing the passage in question) has the correct reading in the first place: *Quinta pars XXXV habet capitula scientiam rerum non naturalium continentia*

inherent in the overlapping categories. Given that the things outside the nature were illnesses with their causes and effects, wakefulness outside the nature must also be seen as pathological. It made more sense to the redactor to contrast natural wakefulness with wakefulness *extra naturam* than with ‘non-natural’ wakefulness, to make the case more apparent.

There are a few more cases in our collated chapter where the redactor changed the wording: for example, *somnus est necessarius*, as against *fit somni necessitas* [4]; *si cibus uel humores sint indigestibiles*, as against *si cibum aut humores [somnus] inuenit indigestibiles* [6]; *Quę [sc. uigilie] si modum excesserint*, as against *Que [sc. uigilie] si sint plusquam oporteat* [8]. Preferences for a different word did not always affect the meaning dramatically. Yet changes of negligible semantic effect play a significant role in outlining different textual versions and illustrating the editorial measures taken by the redactor.

(7) Additions of new textual material

In our sample chapter, there are two short phrases in the revised version which do not have counterparts in the standard version. The additional phrases are *in multum dormientibus* ‘in those who sleep much’ [4], and *quod in dormiente maxime facit* ‘what happens especially when one is asleep’ [6].⁶⁸ I have argued elsewhere that the redactor of the *Theorica* added numerous short passages from the *Kitāb al-malakī*, originally omitted by Constantine. Collations with the *Kitāb al-malakī* and with Stephen of Antioch’s literal translation, the *Regalis dispositio*, demonstrated that Constantine usually succeeded well in compressing the essential content of his Arabic source and pruning repetitious elements.⁶⁹ As to the passage in section 4, collation with a manuscript of the *Kitāb al-malakī* shows that the phrase *in multum dormientibus*, ‘in those who sleep much’, also appears in the original Arabic text.⁷⁰ A corresponding phrase is also in the *Regalis*

⁶⁸ A third additional phrase would be *necesse est*, ‘it is necessary’ (in the same section 4), lacking from the standard version. The phrase is not essential in terms of content and will not be further discussed here. The reading is, however, significant in outlining different textual versions and illustrating the editorial work of the redactor.

⁶⁹ Kaltio, ‘Textual History of Constantine the African’s *Pantegni*, *Theorica*’, pp. 309–13; Kaltio, ‘Evolution of *Theorica*, Book V’, pp. 169–200. For Constantine’s translation methods, see also, for example, Michael McVaugh, ‘Constantine the African’, in *Dictionary of Scientific Biography*, 16 vols (New York, NY, 1970–80), III, 393–95 (p. 394); Herbert Bloch, *Monte Cassino in the Middle Ages*, 3 vols (Cambridge, MA, 1986), I, 104–105; and the present paper above, n. 19.

⁷⁰ The Arabic has *al-naum idhā idhā ṭūla*, ‘when the sleep is prolonged’, in the facsimile of MS Istanbul, University Library, 6375 (s. xiii), printed in ‘Alī ibn al-‘Abbās al-Majūsī, *The Complete Medical Art. Kāmīl al-ṣinā‘a al-ibbriya*, ed. by Fuat Sezgin (Frankfurt am Main: Institute for the History of Arabic–Islamic Science at the Johann Wolfgang Goethe University, 1985), part 1, p. 242. I thank Charles Burnett for checking and translating this passage for me.

dispositio, which has *somnus si prolixior fiat*, ‘if the sleep is prolonged’.⁷¹ Where Constantine decided to leave the passage out, the redactor restored it. The addition makes a slight change to the meaning of the sentence: the standard version remarks that the extreme parts of the body cool in sleep, without further specification. The revised version adds that this applies to those who sleep much.

For the second passage, *quod in dormiente maxime facit*, ‘what happens especially when one is asleep’, there seems to be no counterpart in the *Kitāb al-malakī*, nor in the *Regalis dispositio*.⁷² Without critical editions of the *Kitāb al-malakī* and the *Regalis dispositio*, we cannot determine whether a corresponding phrase was or was not included in the manuscripts of the *Kitāb al-malakī* which Constantine, Stephen, or our redactor were using. Whatever the case, it is perhaps a better possibility that the phrase originated with our redactor, as an explanatory addition. It is stated earlier in the text that the innate heat enters the internal parts of the body in sleep: *Calor enim naturalis interiora tunc [i.e. in somno] petit corporis [4]*. It appears that the redactor wanted again, in section 6, to remind the reader/listener and to specify that the entering of the heat takes place particularly in sleep: *cum calor intret naturalis, quod in dormiente maxime facit*.

These two phrases added to *Theor.* V.34 can be seen as illustrating two different editorial aspects of the revision process: new passages were incorporated, but the editing also included formulating short, additional phrases when necessary.⁷³ The fact that the interpolations and all the other revisions are intertwined in all the three manuscript witnesses suggests that a single party was responsible for all these revisions. We need to ask in what historical context the redactor might have operated, and what were the premises and motives for their project.

The purpose and authorship of the revision

The manuscripts preserving the revised version of the *Theorica*, i.e. Basel, Paris, and Rome, do not identify the redactor, but they do ascribe the translation to Constantine.⁷⁴ In order to place our anonymous author in context,

⁷¹ Stephen of Antioch, *Regalis dispositio*, the Lyon 1523 edition, fol. 67va, lines 40–45 (corresponding to *Theor.* V.34.[4] in our revised version): *Significatur autem nobis caloris somni tempore ad corporis interiora naturalis secessus, eoque amplius tunc egeamus operimento ampliori, atque etiam somnus si prolixior fiat, extremitates frigide fiunt et sanguis ab eis imminuitur; nec multum vigiliarum tempore operiri egemus.*

⁷² Again, I thank Charles Burnett for checking this passage for me from the *Kitāb al-malakī* (see n. 168 above).

⁷³ For another example, in which a passage in the revised version is not found in the original Arabic, but rather represents the redactor’s own formulating, see Kaltio, ‘Evolution of *Theorica*, Book V’, pp. 183–84.

⁷⁴ For example, *Incipit pantegni Constantini* (MS Rome, fol. 2ra, lines 1–2).

one must seek to understand the nature and purpose of the revision, and which premises and characteristics the redactor was working with to have produced such a version. In this context it is useful to discuss a parallel case. Mary Wack has discussed the authorship of the *Liber de heros morbo*, a text attributed to Constantine and embedded among other Constantinian works in the two manuscripts preserving the text. Wack argues that the *Liber de heros morbo* is not only an adaptation of a chapter of Constantine's *Viaticum*, but a retranslation of the original Arabic text, the *Zād al-musāfir* by the North-African physician Ibn al-Jazzār. Yet a text, which is clearly an adaptation of the *Viaticum*, is also preserved in one twelfth-century manuscript. Wack made comparisons between these three pieces, the *Viaticum* in its two versions and with the *Liber de heros morbo* (as well as with the Arabic text). She concluded that 'medieval medical texts were occasionally modified by their users and adapted to practical or pedagogical needs, sometimes resulting in the appearance of a "new" text'. Wack demonstrated that the adapter of the *Viaticum* simplified the vocabulary and added explanatory material on occasion. She proposed that such explanatory additions 'almost certainly derive from an early reader's attempt to make sense of Constantine's sometimes cryptic and confusing Latin'.⁷⁵

This conclusion resonates with our case. As argued above, the changes made by the redactor were intended to simplify Constantine's syntax and clarify his train of thought. Our collated chapter also includes an 'explanatory addition', to use Wack's term, namely *quod in dormiente maxime facit*, discussed above. By way of comparison, the revised version of the *Theorica* emerged in a context characteristic of that in which the *Viaticum* was adapted: users needed a more approachable text. It has been noted that 'more than other works, medical treatises were living texts, used by doctors, and required regular adaptation to constantly changing environments'.⁷⁶

However, unlike the *Viaticum*, or, for example, the *Practica* of the *Pantegni*, the *Theorica* was not actually used by doctors when dealing with sick patients. Instead, the work was studied and quoted by scholars 'to conceptualize broader philosophical theories'; evidence of such scholarly use exists from the medical school of Salerno and the cathedral school of

⁷⁵ Mary Frances Wack, 'The *Liber de heros morbo* of Johannes Afflacijs and its Implications for Medieval Love Conventions', *Speculum*, 62 (1987), 324–44, with an edition and English translation of the *Liber de heros morbo*, and an edition of the corresponding chapter (I.20) of the *Viaticum*, based on two manuscripts. See also Wack, *Lovesickness in the Middle Ages*, pp. 31–50, 179–93, with an edition and English translation of the *Viaticum* I.20, based on fourteen manuscripts. The recent volume by Gerrit Bos, Fabian Käs, and Michael R. McVaugh, *Ibn al-Jazzār's Zād al-musāfir wa-qūt al-hādir* (see above, n. 19), provides an edition and English translation of the original Arabic text, editions of the medieval Hebrew translations, and an edition of the *Viaticum*, Books I and II, based on three manuscripts.

⁷⁶ Lola Ferre & Raphaela Veit, 'The Textual Traditions of Isaac Israeli's *Book on Fevers* in Arabic, Latin, Hebrew, and Spanish', *Aleph*, 9 (2009), 309–34 (p. 330).

Chartres from the first half of the twelfth century onwards.⁷⁷ Despite this different contextual emphasis, it seems that the need for a simplified text existed in the case of the *Theorica* as it did for the *Viaticum*. Many syntactic features of the revised version, categorized and analysed above, are such that they render the text more comprehensible for a reader and—for so it would seem—still more so for a listener. Perhaps the revision was intended for the classroom? For example, the *aut–aut* constructions work by arranging different aspects of a phenomenon into separate and countable units, which makes it easier for the listener to conceptualize the line of thought, something that would have assisted the taking of notes. Also the abundant use of conjunctions and particles in the revised version would have helped listeners in particular to orient themselves in the text and guide them from one thought to the next. It should be noted that conjunctions are not scarce in the standard version of the *Theorica*. But when compared to the standard version, the revised version seems in places even ‘over-supplied’ in this respect. Conjunctions and particles abound, as in the following: *Acciones quoque somni diuerse sunt duobus modis, aut secundum quantitatem temporis, aut secundum magnitudinem materie* [5]; *Primo, ut uidelicet [...]; uisus scilicet et auditus* [3]. In the context of oral delivery in a classroom, however, frequent conjunctions and particles would have benefitted reception. By emphasizing how various terms and sentences were related to each other and by slowing down the pace of argumentation, these small insertions would have helped students to better follow the train of thought. The redactor was someone who was wanting to create a simplified version of the *Theorica*, I would argue, for educational purposes.⁷⁸

As we turn to consider the identity of this redactor, the first point to observe is that (s)he was patently well versed in medicine and knew Constantine’s works well enough to carry out a systematic edition of the *Theorica*. The new version shows ambition beyond what might be expected

⁷⁷ See Kwakkel & Newton, *Medicine at Monte Cassino*, pp. 138–40; Jordan, ‘Medicine as Science’; see also n. 4 above. Kwakkel and Newton argue that even the oldest manuscript of the *Pantegni*, MS Hague, which was produced in Monte Cassino, would have been designed for an educational setting (Kwakkel & Newton, *Medicine at Monte Cassino*, pp. 121–47).

⁷⁸ Despite the arguments presented for the revision’s possible use in the classroom, the striking absence of glossing in manuscripts of the *Pantegni* speaks against it. Glossing is a typical feature in manuscripts used in educational settings, and the manuscripts of, for example, another Constantinian translation, the *Isagoge*, are indeed heavily annotated (for example, London, Wellcome Institute for the History of Medicine Library, MS 801 A; see Eliza Glaze, Emma Glen, Han Yang, Benjamin Lee, Francis Newton, ‘Monte Cassino and the *Isagoge*: The Three Beneventan Manuscripts of Constantine the African’s Latin Translation / Adaptation of Ḥunayn ibn ‘Ishāq’s Arabic Treatise’, *Bibliografia dei manoscritti in scrittura beneventana*, 30 (2022), 45–62 (pp. 50–51)). As Mark Jordan puts it, ‘it is difficult to imagine carrying out a formal *lectio* from any one of these [*Pantegni*] codices’ (Jordan, ‘Fortune of Constantine’s *Pantegni*’, p. 295). The Hague *Pantegni* manuscript is not glossed, although there would have been sufficient space in the margins to accommodate *ad hoc* glossing notes. Should the manuscript have been designed for teaching purposes, as was argued by Kwakkel & Newton (see the previous note), it is hard to understand how it would actually have been used in teaching. The nature of the scholarly use of the *Pantegni*, or more precisely the *Theorica*, would have to form a separate investigation, requiring a more exact definition of the term ‘educational context’.

of a mere ‘adaptation’: the revision of the syntax was a comprehensive and systematically executed project, whereas adaptation usually aims at more local textual effects.⁷⁹ Presuming that the interpolated, additional passages stem directly from the *Kitāb al-malakī*,⁸⁰ it would follow that the redactor was also capable of reading Arabic and worked with Haly’s text in front of them. Given the early date of the revision, Constantine’s connections with the medical school of Salerno and the attested use of the *Theorica* and his other works there from the first half of the twelfth century onwards, the most natural candidate for this redactor would be someone operating within that school. A strong candidate would be the Cassinese monk Joannes Medicus, usually identified with Johannes Afflacijs, who was born sometime between 1055 and 1070 and who died in or after 1114. According to the Cassinese biography *De viris illustribus* from the twelfth century, Johannes was Constantine’s pupil, and was himself a translator of Arabic medical texts. Constantine dedicated five of his works to Johannes, whom he addressed as *carissime fili* in the prefaces. Peter the Deacon, the Cassinese biographer, records that Johannes died in Naples, in possession of copies of all the works of Constantine.⁸¹ Monica Green, Mary Wack, and Raphaela Veit have investigated the relationships between works attributed to Constantine or Johannes and their Arabic originals, the *Kitāb al-malakī*, among others. It is possible that Johannes was the compiler, or one of the compilers, of the *Practica* of the *Pantegni*.⁸² Mary Wack has suggested that Johannes was also the translator of the *Liber de heros morbo*. He would have been capable of working from the original Arabic text and from the *Viaticum*, and his authorship is possible on chronological grounds. Referring to comparisons made by Rudolf Creutz in 1930, Wack regarded Johannes’ style as simpler and clearer than that of Constantine. In the same vein, she demonstrated that the *Liber de heros morbo* simplifies those passages which, on the basis of the *Viaticum*’s manuscript tradition, seem to have been difficult to receive. Moreover, the *Liber de heros morbo* contains a passage from the Arabic omitted in Constantine’s *Viaticum*. Such

⁷⁹ See Wack, ‘*Liber de heros morbo*’, p. 333.

⁸⁰ See Kaltio, ‘Textual History of Constantine the African’s *Pantegni*, *Theorica*’, pp. 309–13; Kaltio, ‘Evolution of *Theorica*, Book V’, pp. 169–200; and in the present paper, pp. 439–40 above.

⁸¹ Peter the Deacon, *De viris illustribus Casinensibus*, c. 35, in *Patrologia Latina*, 173 (Paris: Garnier, 1895), cols 1003–1062c (col. 1042c). The passage is cited, for example, in Kwakkel & Newton, *Medicine at Monte Cassino*, pp. 114–15, accompanied by an English translation. For Johannes Afflacijs, see Rudolf Creutz, ‘Der Cassinese Johannes Afflacijs Saracenus, ein Arzt aus “Hochsalerno”’, *Studien und Mitteilungen zur Geschichte des Benediktiner-Ordens und seiner Zweige*, 48 (1930), 301–24; Wack, ‘*Liber de heros morbo*’, pp. 340–41; Bloch, *Monte Cassino in the Middle Ages*, 1, 102–103; Veit, *Das Buch der Fieber*, p. 50.

⁸² Green, ‘Re-Creation’, pp. 125 and n. 16, 132, 150–51; Veit, ‘Al-Mağūsī’s *Kitāb al-Malakī*’, pp. 149–51 and *passim*; Raphaela Veit, ‘Le *Liber aureus* de Iohannes Afflacijs et ses rapports avec d’autres textes salernitains’, in *La Scuola Medica Salernitana*, pp. 447–64; Veit, *Das Buch der Fieber*, pp. 285–87; Wack, ‘Alī ibn al-‘Abbās al-Mağūsī and Constantine on Love’, pp. 173, 189. See also Hermann Lehmann, ‘Die Arbeitsweise des Constantinus Africanus und des Johannes Afflacijs im Verhaeltnis zueinander’, *Archeion*, 12 (1930), 272–81.

features apply to the revision of the *Theorica*.⁸³ The period of Johannes' activity, c. 1080–c. 1114, would match the revision's time-frame.

While it is tempting to conclude that Johannes Afflacijs was the person most probably behind the *Theorica's* revision, it has to be noted that Johannes' connections to any particular texts (besides the *Liber aureus*⁸⁴) still need to be confirmed. Furthermore, attribution of texts is hampered by the lack of comprehensive stylistic analyses. The authorship of the *Theorica's* revision cannot be solved, at least until we have critical editions of the works of writers associated with Constantine—including Johannes—and comparative stylistic analyses. At the moment it is probable, although not certain, that the redactor of the *Theorica* worked within the medical School of Salerno or affiliated circles. What is certain, however, is that the redactor believed that he (or she) could improve on Constantine's text. To take the trouble of collating and editing Constantine's *magnum opus* indicates the perception of a need for a simplified version. Such a comprehensive and systematically executed project shows a strong fidelity to Constantine, of a kind which the assembler(s) of the *Practica* of the *Pantegni* also showed when putting the text together from bits and pieces.⁸⁵ These enterprises, together with Stephen of Antioch's new, literal and complete translation from Haly Abbas's original Arabic work, show the state of ferment the *Pantegni* was in in the early twelfth century and beyond. The revised version of the *Theorica* provides a significant insight into the *Pantegni's* early reception: the text embodies active engagement with Constantine's work, modifying it in line with the expectations and practical needs of the work's audience. Further analyses, historical, stylistic, and textual, are needed, and it is to be hoped that they will stimulate fresh work towards a critical edition of this fundamental text.

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⁸³ Wack, 'Liber de heros morbo', pp. 332–36, 340–41; Creutz, 'Der Cassinese', pp. 316–24. See also the editions by Bos, Käs, and McVaugh, in *Ibn al-Jazzār's Zād al-musāfir wa-qūt al-ḥādir*, pp. 176–83, 701–703. The *Liber de heros morbo* and the revision of the *Theorica* also differ from each other in a significant respect. Wack's argument that the *Liber* is a retranslation from the original Arabic is based on the vocabulary, syntax and content: these are 'so internally consistent on the one hand and so distinct from the *Viaticum* on the other' that the *Liber* cannot be categorized as a mere adaptation of Constantine's *Viaticum* chapter (Wack, 'Liber de heros morbo', pp. 332, 341). 'Adaptation' may be an understatement for the revision of the *Theorica* as well, but the changes by the redactor are not substantial enough that the typology 'retranslation' would apply either. Despite the different labelling of the two texts, Johannes could well have been behind both, the *Liber* and the revision of the *Theorica*. Approaches to revision or retranslation are various and depend upon the object of the enterprise. If Johannes' intention was to revise the *Theorica* for use in the classroom and for oral delivery, his approach would have been a different one to that taken when working on the *Liber de heros morbo*, or some other text. In one of her later studies, Wack also noted that if the *Liber de heros morbo* and the *Practica* V.25 are both to be attributed to Johannes Afflacijs, 'we must then acknowledge that his style embraces several registers (dependent, perhaps, on context and audience), and use stylistic criteria carefully in attributing texts' (Wack, 'Ali ibn al-Abbās al-Maḡūsī and Constantine on Love', p. 173). I thank James Willoughby for reflecting on this section with me.

⁸⁴ See Veit, 'Liber aureus'; Green, 'Re-Creation', p. 132 and n. 23.

⁸⁵ *ibid.*, p. 148 and *passim*; see also n. 3 above.