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The Latin tradition of Galen's *Capacities of Simple Drugs* and *Capacities of Foods* from Late Antiquity to the Renaissance

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Abstract

Galen's *Capacities of Simple Drugs* and *Capacities of Foods* were both known by Latin authors in Late Antiquity, as Gargilius Martialis shows, and the *Capacities of Simple Drugs* seem to have got a Latin translation at that time or a little later. They were not included in the Alexandrian Canon of Galen's sixteen works, and in the Middle Ages it is not surprising that they were entirely translated into Latin from Greek rather late: the *Capacities of Foods* by William of Moerbecke in Viterbo in 1277, the *Capacities of Simple Drugs* by Nicholas of Reggio in Naples in the early fourteenth century. Before, the first five or six books of the *Capacities of Simple Drugs* were partly translated into Latin from Arabic by Gerard of Cremona: the translation of the sixth book, which is incomplete, is transmitted anonymously in few manuscripts, and has been attributed to Gerard based on the style. The *Capacities of Foods* have no Latin translation from Arabic, but there is a Latin translation of what seems to be a compendium of this work, which was done by Accursius of Pistoia in 1200, in Bologna, and is transmitted under the title of *De dissolutione continua*. These medieval Latin translations were replaced by new ones in the 1530s, the translation of the *Capacities of Simple Drugs* by Thodore Gerard of Ghent, and those of the *Capacities of Foods* by Joachim Martins of Ghent and by Martin Grégoire of Tours. In this article I shall present the Latin translations of both Galen's *Capacities of Simple Drugs* and *Capacities of Foods* from Late Antiquity to the Renaissance, and reconstruct some aspects of their reception.

Key words: Galen - Capacities of Simple Drugs - Capacities of Foods - Latin Tradition

Galen said that "often a single matter possesses the capacity for both food and medicine, [1]" and wrote two works, one dedicated to the *Capacities of Foods* (= *CF*) and the other to the *Capacities of Simple Drugs* (= *SD*)[2]. They are different in terms of volume and commitment, but also similar and connected in content[3]. *SD* consists of eleven books: the first five concern the theory of drugs, their properties and classification; the other following books deal with individual drugs listed in alphabetical order and divided into plants (VI-VIII), minerals (IX), and animals (books X-XI). *CF* consists of three books: after an introduction to the theory and history of nutrition, foods are treated according to their nutritional value: cereals and legumes (I), green plants (II), animals and fish (III).

These two works also share many aspects concerning their tradition, although *SD* generally attracted more interest. This article will reconstruct the Latin tradition of both *SD* and *CF* from Late Antiquity to the Renaissance, focusing in particular on their Latin translations and some aspects of their reception[4].

1. *Antiquity and Late Antiquity*

Galen became very famous during his lifetime. He was a renowned scientist and clinician in Rome, where he took care of distinguished patients, in particular Marcus Aurelius and other emperors. He also wrote extensively on philosophy and medicine, providing authoritative copies of his works for dissemination throughout the Roman Empire.

His contemporaries and immediate successors, above all Greek philosophers and rhetoricians, both pagan and Christian, referred to him in medical and philosophical matters. Among them was a Latin author, Gargilius Martialis (d. 260), originally from Auzia (today in Algeria), who held important military and political positions in North Africa, and who wrote various works on rural economy, botany, medicine, and veterinary medicine. In his preserved treatise *Medicines Based on Vegetables and Fruits*, the main source is Pliny the Elder, but also Galen and Dioscorides are mentioned. As regards Galen's works, *Health* in six books has only one citation, while *SD* and *CF* have at least fifteen and nine citations respectively[5].

One century later, Oribasius of Pergamum (ca. 320-403), who was the doctor and friend of emperor Julian (361-363) marked what has been called "the triumph of Galen" [6]. At the behest of Julian, who planned to restore pagan culture against the spread of Christianity, Oribasius composed an encyclopaedia, the *Medical Collections* in seventy books, based on the works of earlier physicians, especially Galen, with the aim of collecting and making easily available all the medical knowledge of the past. He also wrote two other compendia: the *Synopsis for Eustathius*, his son, in nine books, and the *Euporista for Eunapius*, a friend of his, in four books, both of which were translated into Latin probably in the fifth or sixth centuries[7]. These translations are transmitted in two versions, both of which are not always close to the Greek origi-

nal and include other texts. However, they contain quotations of *SD* and *CF*, as can also be assumed from the preserved books of the *Medical Collections*[8].

Oribasius studied in Alexandria, where a school of medicine was active for several centuries, until the Arabs conquered the city in 641[9]. This school provided a theoretical teaching based on the works of Hippocrates and especially on those of Galen, very similar to what was done with the works of Plato and Aristotle in the philosophical schools of the period. The teachers, known as iatrosophists, were devoted to commenting on, summarizing, and reducing Galen's works to tables, in order to simplify and adapt them to school use, and at the same time to developing Galenism in a way that was later transmitted to the Arabs and the West. For teaching purposes, they selected a special group of Galen's works, which became known as the Alexandrian canon of sixteen works, encompassing every field of medicine for both beginners and advanced students: biology, physiology, anatomy, pathology, diagnosis, hygiene, and therapy. Regarding diet and therapy, *Health* and the *Therapeutic Method* in fourteen books were included, whereas *SD* and *CF* were excluded.

Another medical school, modelled on that of Alexandria, must have been based in Ravenna, in the fifth or sixth centuries[10]. A ninth-century Latin manuscript, Milan, Ambrosian Library 108 inf., contains four commentaries on Galen's introductory works of the Alexandrian canon: *Sects for Beginners*, the *Art of Medicine*, the *Pulse for Beginners*, and the *Therapeutic Method to Glaucon.* The first three commentaries were written by Simplicius, who reported what the iatrosophist Agnellus explained in his lectures in Ravenna, as Simplicius himself testifies in the subtitles. The commentary on the *Therapeutic Method to Glaucon* is different from the other three and cannot belong to Agnellus, but all four have the same structure as Alexandrian commentaries.

The lemmata mentioned in the commentary on *Sects for Beginners* come from a translation entirely preserved in a fifteenth-century manuscript, Vatican Library, Pal. lat. 1090, and also transmitted in an abridged version with a commentary attributed to John of Alexandria and other iatrosophists in manuscripts and in print until 1528[11]. The lemmata of the commentary on the *Therapeutic Method to Glaucon*, by contrast, do not come from a translation preserved in numerous manuscripts and printed until 1528[12]. Thus, the origin of this second translation is uncertain, while that of *Sects for Beginners* seems to be located in Ravenna, which must also have been a translation centre for Hippocrates' and Oribasius' works.

Only these translations of Galen's *Sects for Beginners* and *Therapeutic Method to Glaucon* have come down to us from Late Antiquity or the Early Middle Ages. In addition, there are the Latin lemmata of the *Art of Medicine* and the *Pulse for Beginners* mentioned in the Ravenna commentaries[13]. Finally, some Latin passages of two pharmacological treatises of Galen, *SD* and the *Composition of Drugs according to Places* in ten books, survived through the indirect tradition[14]. It is difficult to say whether there ever were complete translations of these large works of Galen in Late Antiquity.

At the time, generally Galen's genuine corpus was reduced to a small extent or had almost disappeared in the West, while short therapeutic compilations or collections of recipes were attributed to him and became more popular[15].

2. *Middle Ages*

Galen's return to the West started in the eleventh century, when Constantine the African (ca. 1020-1098) provided the first medical translations from Arabic into Latin[16]. He was born in Carthage (today in Tunis), and after legendary travels and adventures he arrived in Salerno, then in Monte Cassino, where he became a monk and lived a long life translating medical works with a team of erudite confreres. Constantine's translations had their first reception in Salerno, where they decisively contributed to a revival of learned medicine and to a creation of an academic curriculum[17]. At the end of the eleventh century, in Salerno, the *Articella* had already been formed, a collection of ancient medical texts mainly translated by Constantine, which would change over time and be adopted by all European universities until the sixteenth century[18].

One of the most important translations by Constantine was that of the *Complete book of the Medical Art* by the Persian physician ʻAlī ibn ʻAbbās (930-994), known as *Pantegni*. It was a synthesis of Greek medicine, which had to overcome Hippocrates' obscurity and Galen's prolixity, as affirmed in the prologue, where the Alexandrian canon is mentioned and the sixteen works of Galen are listed[19]. This selection of Galen's works influenced the translation production of Constantine, as well as the translators of the following century, both from Arabic and from Greek, Burgundio of Pisa (ca. 1110-1193) and Gerard of Cremona (1114-1187).

It is not surprising that *SD* and *CF*, which were not included in the Alexandrian canon, were entirely translated into Latin late. The Dominican friar William of Moerbeke (1215-1288), who became archbishop of Corinth, completed his translation of *CF* during his stay at the papal court of Viterbo on 22 October 1277, and dedicated it to the doctor Rosello of Arezzo[20]. This is the single medical translation by William, who rather translated many philosophical and scientific works, especially of Aristotle. Like other translators of the thirteenth century, William had a literal translation style; he however avoided transliterations and a strictly word-for-word translation in favour of a more readable Latin.

William's translation was appreciated by *CF* editors and considered *codicis instar*[21]. In fact, it is useful for reconstructing the Greek text, because it does not depend on any of the preserved Greek manuscripts. William had access to or owned numerous Greek manuscripts, but few of these are known and none contains Galen's works[22].

The first complete Latin translation of *SD* was done by Nicholas of Reggio, who was active at the Angevin court of Charles II and Robert of Naples in the first half of the fourteenth century, at least from 1308 to 1345[23]. He was the last medieval translator of medical Greek texts and the most prolific. In fact, he translated over fifty works of

Galen and five of Hippocrates in a pre-humanistic project to replace previous translations from Arabic, as they were unreliable, and to make all of Galen available in Latin. Nicholas adopted a very literal translation style, including transliterations, the same as that by Burgundio da Pisa, especially in the early period of his activity. His translations are always important textual witnesses, because they reproduce the Greek originals, which were precious South Italian and Constantinopolitan manuscripts that seem to have been lost. They are even crucial, when Galen's works have not survived in Greek, as in the case of *Problematical Movements, Containing Causes, Antecedent Causes*, the *Parts of the Art of Medicine,* and the *Outline of Empiricism.*

As regards *SD*, no modern critical editions have yet been done. However, its tradition was partly studied and Nicholas' translation was deemed useful for reconstructing the Greek text[24]. On the basis of a stylistic examination, this translation splits into two parts, books I-V and books VI-XI[25]: books I-V were translated by Nicholas in the early years of his activity, whereas books VI-XI turned out to be close to the subsequent translations. Nicholas's style changed in a few years, already before 1314, and this means that the translation of *SD* I-V could not have been done much earlier than that of books VI-XI.

The reception of the two translations by William and Nicholas was different. The translation of *CF* by William is contained in twenty-seven manuscripts, some of them from the end of the thirteenth century. They show that it was part of the so-called New Galen, a variable selection of Galenic works used for advanced university studies[26]; then it entered the complete Latin editions of Galen printed from 1490 to 1528. In contrast, the translation of *SD* by Nicholas is fully preserved in a single manuscript, Vatican City, BAV, Urb. Lat. 248 of the fourteenth-fifteenth centuries. It is an illuminated manuscript, which belonged to Benedetto Reguardati (1398-1469), a professor of medicine in Perugia and Pavia, as evidenced by the Reguardati family coat of arms in the first folio[27]; later on, Benedetto's son donated it to duke Frederick of Montefeltro. Six manuscripts contain only books VI-XI of the *SD* translation by Nicholas, and four of these contain books I-V in Gerard's translation, a combination that made the entire work available. There is also the manuscript Paris, BnF, Lat. 9331 of the fourteenth-fifteenth centuries, which contains books I-VI in Gerard's translation, and books VII-XI in Nicholas' translation. The complete Latin editions of Galen, from 1490 to 1528, printed Galen's *SD* likewise, publishing the translations of Gerard (books I-VI) and Nicholas (books VII-XI) together.

Gerard moved from Cremona to Toledo cathedral, where he translated from Arabic about seventy works of philosophy, science, mathematics, and medicine, which had a great impact on Western culture[28]. In particular, Gerard translated ten works of Galen, generally listed in the Alexandrian canon. After Gerard died in 1187, his *socii*, students, wrote a laudatory account of his life with a list of his translations, including *SD* I-V[29]. However, also *SD* VI was translated by Gerard, as shown by linguistic and stylistic features of this translation[30]. It is missing from the list of his *socii* probably

because it is incomplete. Gerard's translation of *SD* I-V was well known and used in medical education of European universities as part of the New Galen, as shown by the numerous manuscripts that hand it down, more than fifty, some from the late thirteenth century. In contrast, the translation of *SD* VI is preserved in only four manuscripts.
As regards *CF*, no Latin translation was done from Arabic in the Middle Ages, although there was an Arabic translation of this work[31]. It is worth pointing out that a Latin translation of a work on foods, ascribed to Galen, was done from Arabic by Accursius of Pistoia in Bologna, in 1200, and was known with various titles, *De dissolutione continua*, *De virtute cibariorum, De cibis,* or *Liber regiminis*. This translation is preserved in eighteen manuscripts from the late thirteenth century onwards, some of which contain a New Galen collection. Then it was printed in all complete Latin editions of Galen, from that by Diomede Bonardo in 1490 to the Graeco-Latin edition by René Chartier (1572-1654) in 1638[32].
Bonardo published the *Continuous Dissolution* unusually specifying that it was not a genuine work of Galen (vol. I, cc. zz3v-6v): "*Explicit liber de dissolutione continua qui a quibusdam attribuitur Galieno.*" The humanist physician Agostino Gadaldini (1515-1575), who edited the Giuntine editions from 1541-2 to 1565, agreed with Bonardo, but expressed a positive opinion on this text in his 1550 Giuntine edition, suggesting that the *Continuous Dissolution* would be based on two following works of Galen, *CF* and *Good and Bad Humours* (*ascripti libri*, c. 71r): "*Pleraque ex libris de alimentis et de cibis boni et pravi succi in hunc librum a aliquo longe post Galeni tempora tracta videntur; inest tamen in hoc libro nonnihil absurdi*." Chartier printed the *Continuous Dissolution* after *CF* in vol. VI; in his notes he labeled it as book IV of *CF*, and claimed that it appears to be a very good conflation of Galenic works, without identifying the precise sources (vol. VI, pp. 548-549):

> *In librum Galeno ascriptum De dissolutione continua seu de alimentorum facultatibus quartum.*
> *Hic liber, Galeno ascriptus, de dissolutione continua seu de continuo substantiae effluvio inscriptus est, qui, quanquam de alimentorum facultatibus liber agat, quartus additus et partim ex libris Galeni superioribus, partim ex subsequentibus conflatus videatur, in eo tamen multa verba vera et perpauca absurda deprehendentur.*

The Arabic original of the Latin *Continuous Dissolution* is non preserved, but a Hebrew translation of chapters 1-14 was done by Zeraḥyah ben Isaac ben She'altiel Ḥen, who was active in Rome between 1277 and 1291. It is contained in a single manuscript, Paris, BNF, Héb. 1175, ff. 60a–62b, written by an Italian hand in the sixteenth century, with the title of *The Book of the Regimen by Galen, translated by Zeraḥyah ben Isaac, from the translation by Ḥunayn*. Gerrit Bos, who edited the Hebrew translation together with the Latin *Continuous Dissolution,* chapters 1-14*,* by Ivan Garofalo, claimed that this text is a summary of original Galenic material, and may have as its source a *CF* summary reportedly produced by Ḥunayn Ibn Isḥāq (808-873), the famous physician and translator of Galen[33].

It is uncertain that the *Continuous Dissolution* goes back to Ḥunayn, whereas it is certain that it contains material from Galen's works, including *CF*, as Gadaldini had already stated[34]. However, the identification of the other sources requires further investigations.
As regards the indirect Latin tradition of *SD* and *CF* in the Middle Ages, much was done for the former, as already less for the latter[35].

3. Renaissance

In the last decades or two of the fifteenth century, medical humanism developed in Italy, and new translations of Galen and other ancient physicians were done from Greek originals into a Latin similar to that of classical authors such as Pliny, Celsus, and Cicero[36].
In 1492, Niccolò Leoniceno (1428-1524), a professor of logic, mathematics, philosophy, and medicine in Ferrara, published *Pliny's Errors* in the form of a letter to the famous poet and humanist Angelo Poliziano (1454-1494), which is to be considered the manifesto of medical humanism[37]. In this pamphlet, Leoniceno criticised Latin and Arabic authors, Pliny, Avicenna, Serapion, as well as medieval commentators, for misinterpreting Greek texts especially on botany and pharmacology, i.e. the works of Dioscorides, Theophrastus, and Galen, including *CF* and *SD*. He strongly emphasised that contemporary medicine would progress by returning to the ancient Greek originals. Leoniceno consistently collected numerous Greek medical and scientific manuscripts and produced eleven Latin translations of Galen's works[38]. At the same time, other humanist physicians or humanists with medical interests translated works by Galen from Greek into Latin such as Giorgio Valla (1447-1499), Lorenzo Lorenzo (ca. 1460-1502), Demetrius Chalcondyles (1423-1511), and shortly after Thomas Linacre (1460-1524), and Wilhelm Kopp (1463-1532)[39]. All these pioneering humanist translators, who made use of Greek manuscripts, generally translated works by Galen that had already been translated in the Middle Ages, and the same works several times: the *Uneven Bad-Mixture* was translated by Valla, Leoniceno, and Linacre; the *Art of Medicine* and the *Commentary on Hippocrates' Aphorisms* were translated by Leoniceno and Lorenzi; the *Distinct Types of Disease* and *Causes of Diseases* were translated by Leoniceno and Kopp.
As regards diet and drugs, Linacre translated *Health* and the *Therapeutic Method*, but *CF* and *SD* did not immediately have new Latin translations. In his *Pliny's Errors* Leoniceno translated few quoted passages from *SD*[40]. He actually possessed a Greek manuscript of this work, as did Valla and Ermolao Barbaro (1453-1493), the latter a great humanist, translator, and commentator of the *Medical Matter* by Dioscorides[41]. Leoniceno also possessed a Greek manuscript of *CF*, but probably after writing *Pliny's Errors*, in which he quoted William's medieval translation[42].
A landmark in the history of Latin translations of Galen was the first Greek edition, in five folio volumes, printed by the heirs of Aldus Manutius in Venice in 1525-1526. This edition was an extraordinary undertaking in terms of investment and commitment, providing a large number of texts, more than a hundred, about half of which

had never before been translated into Latin. From then on, and especially until the mid-sixteenth century, Galen's works were translated into Latin from the Aldine edition by many authors, both well- and less known, from all over Europe. Some of his works received several translations, but this was not the case for his more voluminous treatises. Nicholas' medieval translation of the *Function of the Parts of the Body*, a work on anatomy and physiology in seventeen books, was revised, but never replaced. The new Latin translations of *SD* and *CF* were both published by the same printer, Simon de Colines, in Paris in the same year, 1530. Their authors, respectively Theodoric Gerard of Gouda (d. 1529/30), known as Gaudanus, and Joachim Martens of Ghent (*fl.* 1527-1540), are quite obscure. They came from the same region, perhaps both belonged to Erasmus' circle, if they were not in touch with each other.

In 1529 Gaudanus published his translations of two medical works: *Bloodletting* of Galen, and *Leeches*, ascribed to Galen, but actually a collection of excerpts mainly from Oribasius[43]. In his dedicatory letter to his friend and doctor Michael Monticellus, otherwise unknown, who had invited him to translate *Bloodletting*, Gaudanus talked about his translation work: the Aldine edition, which he used as the corrupt Greek original; the medieval Latin translation, with which he corrected the Greek text; the great translator Linacre, whom he took as a model editor. He also spoke of his health problems, which must have been serious.

In August 1530, Gaudanus' translation of *SD* was published, when he was already dead[44]. This edition was promoted by the German pedagogue Johannes Sturm (1507-1589), who had connections with many humanists throughout Europe, including Erasmus. Sturm wrote a dedicatory letter to the bishop of Noyon Jean de Hangest (1501-1577), in which he said that Gaudanus had done the translation of *SD* for himself, for the study and understanding of the Greek text, and had given it to his friends when he was dying; however, its importance and high quality convinced Sturm to publish it. Apart from the dedicatory letters mentioned, not much is known about Gaudanus. Born in Gouda, where Erasmus was also born or at least spent his early years, in 1510 he started studying medicine at the university of Leuven, which Sturm also attended.

As regards the translator of *CF*, Martens is known mainly through his correspondence with Erasmus[45]. Born in Ghent, he matriculated at the university of Montpellier in May 1527, and in summer or early autumn of 1528 he was in Carpentras with Jacopo Sadoleto (1477-1547), then bishop of the city, a prominent figure in the Catholic world conciliating with Protestants, who was in contact with both Sturm and Erasmus. At the end of the same year, Martens had to move to Paris, where he lived and worked for several years. Later on, in August 1532, he visited Erasmus in Freiburg, and shortly after he returned to Ghent. Martens only published his translation of *CF*, dedicating it to Sadoleto, bishop of Carpentras. In his letter to the reader he spoke of his Greek original, the Aldine edition: it provided a corrupted text, which he tried to correct in various ways, including on the basis of the medieval translation.

The two translations by Gaudanus and Martens had different fates. The translation of *SD* was unrivalled and reprinted several times with revisions until the 1826 edition by Karl Gottlob Kühn, vol. XI[46]. The translation of *CF* had few reprints, because it was replaced by another translation, that by Martin Grégoire (d. 1552) of Tours, published in Paris in 1538 and then reprinted until the 1823 edition by Kühn, vol. VI.

Not much is known about Grégoire's life and work[47]. Since 1544, he made investments in Tours, documented by notarial deeds, as well as a will in favour of his wife in 1552, shortly before his death. As regards his production, it was centred on Galen's works. It began with a revision of Nicholas' translation of the *Function of the Parts of the Body*, published in 1537, in collaboration with Jacques Dubois (1478-1555), known as Sylvius, a famous professor of medicine in Paris, teacher of Andreas Vesalius (1514-1564), staunch promoter and defender of Galen's anatomy[48]. In the same year and by the same printer, Chréstien Wechel, Grégoire published a translation of Galen's *Pulse for Beginners*; in the following year, 1538, two other translations, those of *CF* and the *Slimming Diet*, and a revision of Linacre's translation of the *Therapeutical Method*, the latter by another printer, Claude Chevallon's widow. Finally, in 1549, he published a French translation of the *Composition of Drugs according to Kind*, I-IV, a pharmacological work of Galen in seven books.

The translation of the *Slimming Diet* was not a true translation, because the Greek text was not available, but rather a revision of Nicholas' translation, like that of the *Function of the Parts of the Body*, which was however printed under the name Grégoire. The *CF* translation is also a revision of Marten's translation, as shown in the following passage:

Galen, CF I 1: 22, 20-23, 7 W (VI 478, 11-479, 3 K)	**Joachim Martens** Paris: Simon de Colines, 1530, 10r	**Martin Grégoire** Paris: Chréstien Wechel, 1541, 10
ὅλως γὰρ οὐδὲν οἷόν τ᾽ ἐστὶ τῇ πείρᾳ βασανίσαι προσηκόντως ἄνευ τοῦ τῷ λόγῳ πρότερον εὑρεῖν ἀκριβῶς τὴν διάθεσιν, ᾗ προσφέρεται τὸ βασανιζόμενον ἤτοι σιτίον ἢ ποτὸν ἢ φάρμακον.	Omnino enim nullius rei vires experientia commode indagabis, nisi prius per rationem ad unguem compertum habueris affectum cui applicatur quod exploras, sive id cibus, sive potio, sive medicina sit.	Omnino enim nullius rei vires experientia commode **explorabis**, nisi prius per rationem ad unguem compertum habueris affectum cui applicatur quod exploras, sive id **sit** cibus, sive **potus**, sive **medicamentum**.
ὕλη γάρ ἐστι βοηθημάτων ἡ τῶν τοιούτων γνῶσις, οὐκ αὐτὰ τὰ βοηθήματα.	Quippe talium cognitio est materia auxiliorum, non autem ipsorum auxiliorum cognitio.	Quippe **affectuum** cognitio, est materia **remediorum**, non ipsorum **remediorum** cognitio.
ἐπεὶ δ᾽ ἀδύνατον ἄνευ τοῦ γιγνώσκειν ἀκριβῶς τὰς δυνάμεις τῶν ὑλῶν, αἷς χρώμεθα, βοηθεῖν | τοῖς δεομένοις αὐτῶν, ἀναγκαῖόν ἐστιν, ὥσπερ ἑτέρωθι περὶ τῶν ἐν τοῖς φαρμάκοις δυνάμεων, οὕτως ἐνταῦθα περὶ τῶν ἐν τῇ τροφῇ διελθεῖν.	Quoniam vero nisi exacte rerum quibus utimur, vires calleamus, illarum ope egentibus succurrere haud valebimus: necesse est ut alibi de medicaminum, ita hoc quoque loco de alimentorum facultatibus disserere.	**At** quoniam **fieri non potest, ut**, nisi **quis materiarum**, quibus utimur, **facultates exacte** calle**at**, illarum ope egentibus **succurrat**: necesse est ut alibi de **pharmacorum**, ita hoc quoque loco de alimentorum facultatibus disser**amus**.

Grégoire changed the construction of only one sentence compared to Martens' translation (*At quoniam fieri non potest* ...), generally shifted a few verbs or adverbs (*sit* and *exacte*), and above all replaced some terms with synonyms: *indagabis* with *explorabis*, *potio* with *potus*, *medicina* with *medicamentum*, *auxiliorum* with *remediorum* (twice), *vero* with *at*, *vires* with *facultates* (once, although the term *vires* occurs twice in Marten's translation of this passage), *medicaminum* with *pharmacorum*. The first and the last substitutions were suggested by the Greek text (*explorabis* and *pharmacorum*), as was that of *rerum* with *materiarum* (τῶν ὑλῶν). As regards *affectuum* instead of Marten's *talium* (τῶν τοιούτων), it is an interpretation or correction of Grégoire. However, it is evident that Grégoire relied on Martens' translation, although the latter's name disappeared in Galen's editions after 1531.

4. Conclusions

Galen's two works *SD* and *CF* had a Latin tradition with some aspects in common, although generally *SD* attracted more interest than *CF*. In Late Antiquity, both were quoted in Gargilius Martialis' s Latin treatise *Medicines Based on Vegetables and Fruits*, as well as reasonably in the Latin translations of Oribasius' *Synopsis* and *Euporista*. Both were also excluded from the Alexandrian canon, the selection of sixteen works of Galen that encompassed every field of medicine and had great influence in Late Antiquity and in the Middle Ages.

Therefore, their first complete medieval translations, both from Greek into Latin, were done late: William of Moerbecke translated *CF* in 1277, and Nicholas of Reggio translated *SD* in two stages, around 1310 and a little later. In the meantime, Gerard of Cremona had already translated *SD* I-VI from Arabic into Latin in the second half of the twelfth century, and in 1200 Accursius of Pistoia had translated the *Continuous Dissolution*, an Arabic compilation on nutrition and foods based directly or indirectly on works by Galen, including *CF*. Of all these translations, Gerard's, the oldest, was the most widespread, as shown by the more than fifty manuscripts that hand it down, while Niccolò's translation, the most recent, is preserved in its entirety by only one manuscript.

Medical humanism started mainly on botany and pharmacology, on the works of Discorides and Galen used in their Greek originals. Dioscorides' *Medical Matter* was early translated into the new Latin and commented on by Ermolao Barbaro and was also published in Greek by Aldus Manutius in 1499. The Greek edition of Galen's works was then published in 1525, and new translations of *SD* and *CF* were both published by Simon de Colines in Paris in 1530. Their authors were respectively Theodoric Gerard, known as Gaudanus, and Joachim Martens, from the same region and the same circle of Erasmus. These translations were both revised in the sixteenth century, but never completely redone. In fact, what Martin Grégoire published in 1538 was not a new translation of *CF*, but a revision of Martens'.

A generation after Nicolò Leoniceno, who promoted a return to Galen and Greek medicine, their overcoming already began in several fields. As regards botany, drugs, foods, and diet, Antonio Musa Bravasola (1500-1555), an erudite physician, disciple of Leoniceno, clinician, and professor at the university of Ferrara, wrote a partly preserved biography of his master, an impressive index of Galen's works published in the Giuntine editions from 1550 onwards, as well as the *Examination of Simple Drugs*, in which he claimed the supremacy of observation over ancient texts, and a commentary on Hippocrates' *Regimen in Acute Diseases*, in which he criticised certain ancient foods. He also found a botanical garden in Ferrara, in Belvedere island, with the aim of learning first-hand about traditional and new plants[49].

Despite the supremacy of observation, the arrival of new medicinal plants from distant lands, and the revolutionary introduction of novel drugs by iatrochemistry, Galen's works long remained the standard medical culture in the early modern period. Commentaries on *SD* were published in the sixteenth and seventeenth centuries, and at the same time *SD* and *CF* were printed in complete and single editions of Galen in Latin, as well as in the vernacular[50]. They were also mentioned by different physicians, both clinicians, such us Amatus Lusitanus (1511-1568) in his *Therapies*, and botanists, such as Andrea Bacci (1524-1600) in his *Natural History of Wines*. What and how much of *SD* and *CF* were mentioned still require further investigation.

Bibliography and notes

General bibliography

Acerbi F, Vuillemin-Diem G, Un nouveau manuscript de la 'collection philosophique' utilisé par Guillaume de Moerbecke: le *Par. gr.* 2575. Przegląd Tomistyczny 2015;21: 219-288.

Ackermann JCG, Historia literaria Claudii Galeni. In: Kühn CG, Claudii Galeni opera omnia. Vol. I. Leipzig: Knobloch; 1821. pp. XVII-CCLV.

Arrizabalaga J, The *Articella* in the Early Press (c. 1476-1534). Cambridge: Cambridge Wellcome Unit for the History of Medicine, CSIC Barcelona Department of History of Science; 1998.

Berlier S, Les éditions en grec et en latin du *De usu partium* de Galien. Synthèse et nouveaux éléments. Galenos 2023;17:53-77.

Beullens P, De historia animalium, Translatio Guillelmi de Moerbeka (Aristoteles Latinus XVII 2, I, 2). Turnhout: Brepols; 2021.

Beullens P, The Friar and the Philosopher. William of Moerbeke and the Rise of Aristotle's Science in Medieval Europe. London: Routledge; 2023.

Bietenholz PG, Joachim Martens. In: Bietenholz PG, Deutscher TB (eds), Contemporaries of Erasmus. A Biographical Register of the Renaissance and Reformation. Vol. I-II. Toronto: University of Toronto Press; 1985-1987.

Bos G, Garofalo I, A Pseudo-Galenic Treatise on Regimen. The Hebrew and Latin Translations from Ḥunayn Ibn Isḥāq's Arabic Version. Aleph 2007;7:43-95.

Boudon-Millot V, Galien. Tome I: Introduction générale, *Sur l'ordre de ses propres livres, Sur ses propres livres, Que l'excellent médecin est aussi philosophe* (CUF, Grec 453). Paris: Les Belles Lettres; 2007.

Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019.

Boutineau FE, Notice sur la vie et les oeuvres de Martin Grégoire médecin à Tours au XVI[e] siècle. Bulletin de la Société française d'histoire de la médecine 1904;3:35-64, https://www.biusante.parisdescartes.fr/histoire/medica/resultats/index.php?do=page&cote=bsfhmx1904x03&p=35.

Burnett C, Jacquart D, Constantine the African and 'Ali Ibn Al-'Abbas Al-Magusi. The Pantegni and Related Texts. Leiden: Brill; 1994.

Burnett C, The Coherence of the Arabic-Latin Translation Program in Toledo in the Twelfth Century. Science in Context 2001;14:249-288.

Calà I, Theodoricus Gerardus Gaudanus traduttore di Galeno. Medicina nei Secoli 2013;25:1091-1101.

Chandelier J, Niccolò da Reggio, Dizionario Biografico degli Italiani 2013;78, http://www.treccani.it/enciclopedia/niccolo-da-reggio_(Dizionario-Biografico).

Degen R, The Oldest Known Syriac Manuscript of Ḥunayn b. Isḥāq. In: Graffin F, Guillaumont A (eds), Symposium Syriacum 1976. Rome: Pontificium Institutum Orientalium Studiorum; 1978. pp. 63-71.

Díaz Marcos M, Problemas de autoría en la traducción latina medieval del libro VI del *De simpl. med. fac.* de Galeno. Anuari de Filologia. Antiqua et Mediaeualia 2021;11,2:43-51.

Durling RJ, A Chronological Census of Renaissance Editions and Translations of Galen. Journal of the Warburg and Courtauld Institutes 1961;24:230-305.

Ferraces Rodríguez A, Magia, medicina y veterinaria en la Antigüedad Tadía. Editio princeps del recetario medico *Ad calculum*. Maia 2013;65:75-94.

Fischer KD, Die vorsalernitanischen lateinischen Galenübersetzungen. Medicina nei Secoli 2013;25:673-713.

Fischer KD, Die spätlateinische *Übersetzung* von Galen, *Ad Glauconem* (XI 1-146 Kühn). Galenos 2013;6:103-116.

Fischer KD, In Augusto Beccarias Fuszstapfen. In: La conoscenza scientifica nell'Alto Medioevo (Settimane di Studio della Fondazione Centro Italiano di Studi sull'Alto Medioevo LXVII). Spoleto: Fondazione Centro Italiano di Studi sull'Alto Medioevo; 2020. pp. 439-473.

Fischer KD, Galens Kapitel über das ἀγαρικόν und seine Überlieferung, oder: ein Latinist auf Abwegen. In: Martínez Manzano T, Hernández Muñoz FG (eds), Del manuscrito antiguo a la edición crítica de textos griegos. Homenaje a la prof[a] Elsa García Novo. Madrid: Dykinson; 2020. pp. 55-68.

Fortuna S, Galeno latino, 1490-1533. Medicina nei Secoli 2005;17:469-505.

Fortuna S, Nicolò Leoniceno e le edizioni Aldine dei medici greci. In: Boudon-Millot V, Garzya A, Jouanna J, Roselli A, Ecdotica e ricezione dei testi medici greci. Atti del V Convegno internazionale (Napoli, 1-2 ottobre 2004). Naples: D'Auria; 2006. pp. 443-464.

Fortuna S, The Prefaces to the Medical Translations of the First Humanists. Traditio 2007;62:317-335.

Fortuna S, The Latin Editions of Galen's Opera omnia (1490-1625) and Their Prefaces. Early Science and Medicine 2012;17:391-412.

Fortuna S, René Chartier (1572-1664) e le edizioni latine di Galeno. In: Boudon-Millot V, Cobolet G, Jouanna J (eds), René Chartier (1572-1654) éditeur et traducteur d'Hippocrate et de Galien. Paris: Editions De Boccard; 2012. pp. 303-324.

Fortuna S, Editions and Translations of Galen from 1490 to 1540. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019. pp. 437-452.

Fortuna S, Il corpus delle traduzioni di Niccolò da Reggio (fl. 1308-1345). In: La medicina nel Basso Medioevo. Tradizioni e conflitti (Centro Italiano di Studi sul Basso Medioevo, Accademia Tudertina). Spoleto: Fondazione Centro Italiano di Studi sull'Alto Medioevo; 2019. pp. 285-312.

Fortuna S, Niccolò da Reggio and His Latin Translation of Galen's *Simple Drugs*. Archives Internationales d'Histoire des Sciences 2020;70:216-237.

Fortuna S, Pseudo-Galenic Texts in the Editions of Galen (1490-1689). Medicina nei Secoli 2020;32:117-138.

Fortuna S (ed.), Galeno latino. Catalogo della tradizione latina di Galeno. 2nd ed., Clion srl: 2021 (1st ed., Scuola Normale Superiore di Pisa; 2015.), www.galenolatino.com.

Fortuna S, Niccolò da Reggio e il *Vat. gr.* 283. Il caso dello pseudo-galenico *De hirudinibus, revulsione, cucurbitula, incisione et scarificatione* con edizione del testo greco e della traduzione latina. Micrologus 2023;31:345-383.

Fortuna S, Galen's Return to the West. In: Singer PN, Rosen RM (eds), Oxford Handbook of Galen. Oxford: Oxford University Press; 2024. pp. 558-581.

Fortuna S, Savino C, Giorgio Valla and His Latin Translations of Galen. Medicina nei Secoli 2024;36:57-86.

Galenus, Opera. Venice: Filippo Pinzi; 1490.

Galenus, De alimentorum facultatibus libri 3. Ex Martini Gregorii interpretatione. Leiden: Wilhelm Christian; 1633.

García Ballester L, The New Galen. A Challenge to Latin Galenism in Thirteenth-Century Montpellier. In: Fischer KD, Nickel D, Potter P (eds), Text and Tradition. Studies in Ancient Medicine and Its Transmission Presented to Jutta Kollesch. Leiden: Brill; 1998. pp. 55-83 (repr. in García Ballester L, Galen and Galenism. Theory and Medical Practice from Antiquity to the European Renaissance. Aldershot: Ashgate; 2002. V).

Garofalo I, Galen's Legacy in Alexandrian Texts Written in Greek, Latin, and Arabic. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019. pp. 62-85.

Gliozzi G, Brasavola (Brasavoli), Antonio, detto Antonio Musa, Dizionario Biografico degli Italiani 1972;14, http://www.treccani.it/enciclopedia/brasavola-antonio-detto-antonio-musa_(Dizionario-Biografico)/.

Gómez Costoya MC, Oribasio Latino, *Synopsis* VII. Estudio introductorio y edición crítica (MGL 4, 1-2). Santiago de Compostela: Andavira Editora; 2020.

Helmreich G, Galeni De alimentorum facultatibus (CMG V 4, 2). Leipzig-Berlin: Teubner; 1923.

Jacquart D, Les traductions médicales de Gérard de Crémone. Annali della Biblioteca Statale e Libreria Civica di Cremona 1990;41:57-70.

Kühn CG, Galeni Opera omnia. Vol XI. Leipzig: Knobloch; 1826.

Kwakkel E, Newton F, Medicine at Montecassino. Constantine the African and the Oldest Manuscript of His *Pantegni*. Turnhout: Brepols; 2019.

Leonicenus, De Plinii, et plurium aliorum medicorum in medicina erroribus. Ferrara: Giovanni Mazzocchi, 1509.

Long B, Arabic-Latin Translations: Transmission and Transformation. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019. pp. 344-358.

Lonigo A (ed.), Nicolò Leoniceno (1428-1524), un umanista veneto nella storia della medicina. Atti del Convegno in Lonigo per il 590° anniversario della nascita. Padua: Ed. Elzeviro; 2019.

Lo Parco F, Niccolò da Reggio antesignano del risorgimento dell'antichità ellenica nel secolo XIV da codici delle biblioteche italiane e straniere e da documenti e stampe rare. Memoria

letta alla reale Accademia di Archeologia, Lettere e Belle Arti di Napoli. Naples: Cimmaruta; 1913.
Maire B, Gargilius Martialis, *Les remèdes tirés des léguumes et des fruits* (CUF, Latin 367). Paris: Belles Lettres; 2002.
Marrone D, Thomas Linacre and the Italian Humanism. Philological and Interpretative Aspects in Linacre's Translations. In Marrone D, Thiene G, Luxon L (eds), English Students of Medicine at the University of Padua during the Renaissance. Padua: Padua University Press; 2016. pp. 45-76.
McVaugh M, Towards Stylistic Grouping of the Translations of Gerard of Cremona. Medieval Studies 2009;71:99-112.
McVaugh M, The Latin Translation from Arabic by Gerard of Cremona. In: Bos G, McVaugh M, Schatzmiller J (eds), Transmitting a Text through Three Languages. The Future History of Galen's *Peri anomalou dyskrasias* (Transactions of the American Philosophical Society 104, 5). Philadelphia, PA: American Philosophical Society; 2014. pp. 9-24.
McVaugh M, Galen in the Medieval Universities. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019. pp. 381-392.
Molinier A, Oeuvres d'Oribase. Vol. VI. Paris: À l'imprimerie nationale; 1976.
Mugnai Carrara D, La biblioteca di Nicolò Leoniceno. Tra Aristotele e Galeno: cultura e libri di un medico umanista (Accademia toscana di scienze e lettere "La Colombaria"). Florence: Olschki; 1990.
Mugnai Carrara D, Alla scoperta di una 'mirabile' biblioteca. In: Lonigo A (ed.), Nicolò Leoniceno (1428-1524), un umanista veneto nella storia della medicina. Atti del Convegno in Lonigo per il 590° anniversario della nascita. Padua: Ed. Elzeviro; 2019. pp. 97-130.
Nicoud M, Reguardati, Benedetto. Dizionario Biografico degli Italiani 2016;86, http://www.treccani.it/enciclopedia/benedetto-reguardati_(Dizionario-Biografico)/.
Nutton V, The Rise of Medical Humanism: Ferrara 1464-1555. Renaissance Studies 1997;11:2-19.
Nutton V, The Fortunes of Galen. In: Hankinson RJ (ed.), The Cambridge Companion to Galen. Cambridge: Cambridge University Press; 2008. pp. 355-390.
Nutton V, Galen, *On Problematical Movements*. Cambridge: University Press; 2011.
Nutton V, Niccolò in Context. Medicina nei Secoli 2013;25:941-956.
Nutton V, The New Galen Revised. Galenos 2017;11:73-80.
Nutton V, Galen. A Thinking Doctor in Imperial Rome. London: Routledge; 2020.
O'Boyle C, Thirteenth-and Fourteenth-Century Copies of the *Ars medicine*. A Checklist and Contents Descriptions of the Manuscripts. Cambridge: Cambridge Wellcome Unit for the History of Medicine, CSIC Barcelona Department of History of Science; 1998.
Orlandi L, Al fianco di Aldo, per Galeno e Aristotele. L'identità dell''Anonymus Harvardianus' (tavv. VI-X). Italia Medievale e Umanistica 2022;63:281-315.
Palmieri N, L'antica versione latina del *De sectis* di Galeno: *Pal. lat.* 1090. Pisa: ETS; 1989.
Palmieri N, Sur les traces d'une ancienne traduction latine de l'*Ars medica*. Latomus 1997;3:504-533.
Palmieri N, Agnellus de Ravenne, lectures galéniques: le *De pulsibus ad tirones*. Introduction, texte latin (adiuvante Ivan Garofalo), traduction et notes explicatives. Sante-Étienne: Publications de l'Université de Sante-Étienne; 2005.
Palmieri N, Il Galenismo alessandrino in Italia tra Antichità Tarda e Alto Medioevo. In: La conoscenza scientifica nell'Alto Medioevo (Settimane di Studio della Fondazione Centro Italiano di Studi sull'Alto Medioevo LXVII). Spoleto: Fondazione Centro Italiano di Studi sull'Alto Medioevo; 2020. pp. 237-272.

Petit C, La tradition latine du traité des *Simples* de Galien: étude préliminaire. Medicina nei Secoli 2013;25:1063-1090.

Petit C (ed.), Revisiting Medical Humanism in Renaissance Europe. Arts et Savoirs 2021;15.

Pietrobelli A, Commenter Galien et Hippocrate à la Renaissance ou comment Brasavola met à mal le régime grec. Renaissance and Reformation 2010;33,3:99-140.

Poggi G, Uno spurio galenico *De dissolutione continua*. Traduzione e commento (Università degli Studi di Roma, Scuola di Perfezionamento in Storia della Medicina). Rome: Arti grafiche Cossidente; 1968.

Puntoni V, Indice dei codici greci della Biblioteca Estense di Modena. In: Samberger C (ed.), Catalogi codicum Graecorum qui in minoribus bibliothecis Italicis asservantur. Vol. I. Leipzig: Zentral-Antiquariat der Deutschen Demokratischen Republik; 1965.

Raeder I, Oribasii Collectionum medicarum reliquiae, libri XLIX-L, libri incerti. Eclogae medicamentorum (CMG VI 2, 2). Leipzig-Berlin: Teubner; 1933.

Savino C, Galeni In Hippocratis Aphorismos VI commentaria (CMG V 12, 6). Berlin: De Gruyter; 2020.

Temkin O, Galenism. Rise and Decline of a Medical Philosophy. Ithaca-London: Cornell University Press; 1973.

Ullmann M, Die Medizin im Islam. Leiden: Brill; 1970.

Urso AM, Translating Galen in the Medieval West: The Greek-Latin Translations. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019. pp. 359-380.

Vázquez Buján ME, Problemas generales de las antiguas traducciones médicas Latinas. Studi Medievali 1984;25, 1984:641-680.

Vendruscolo F, Per la biblioteca di Francesco ed Ermolao Barbaro: cinquant'anni dopo. In: Brockmann C, Deckers D, Harlfinger D, Valente S (eds), Griechisch-byzantinische Handschriftenforschung. Traditionen, Entwicklungen, neue Wege. Berlin: De Gruyter; 2020. pp. 101-128.

Ventura I, Galenic Pharmacology in the Middle Ages: Galen's *On the Capacities of Simple Drugs* and Its Reception between the Sixth and the Fourteenth Century. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019. pp. 393-433.

Ventura I, Galen's *Simple Drugs* and Its Medieval Readers: Some Notes on the Reception of Galen's Parmacology. Archives Internationales d'Histoire des Sciences 2020;70:176-214.

Ventura I, Farmacologia e farmacoterapia nell'Alto Medioevo: trasmissione di testi, trasmissione di contenuti. In: La conoscenza scientifica nell'Alto Medioevo (Settimane di Studio della Fondazione Centro Italiano di Studi sull'Alto Medioevo LXVII). Spoleto: Fondazione Centro Italiano di Studi sull'Alto Medioevo; 2020. pp. 493-578.

Ventura I, La Scuola medica salernitana. In: Pontrandolfo A, Galdi A (eds), Storia di Salerno. Vol. I: Età antica e medievale. Salerno: D'Amato editore; 2020. pp. 249-263.

Ventura I, John of Saint-Amand and Galen's *De simplicium medicamentorum facultatibus*. An Example of a Re-Appropriation of Galenic Pharmacology by the Medieval University Context. Galenos 2021;15:93-138.

Wallis F, Bartholomeus, Glose super Isagogen Iohannitii. Florence: Sismel-Edizioni del Galluzzo; 2022.

Wilkins J, Galien. Tome V: *Sur les facultés des aliments* (CUF, grec 499). Paris: Les Belles Lettres; 2021.

1. Galen, XV 507, 2-3 K.
2. *CF* had two critical editions: one by Helmreich G, Galeni De alimentorum facultatibus (CMG V 4, 2). Leipzig-Berlin: Teubner; 1923; the other by Wilkins J, Galien. Tome V: *Sur les facultés des aliments* (CUF, grec 499). Paris: Les Belles Lettres; 2013. *SD* has no critical edition and the reference edition is that by Kühn CG, Galeni Opera omnia. Vol XI. Leipzig: Knobloch; 1826.
3. See Wilkins J, Ref. 2. pp. VII-XXIV.
4. On Galen's Latin tradition see Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019, particularly the contributions of Antoine Pietrobelli, Ivan Garofalo (Part 1), Monica H Green, Brian Long, Anna Maria Urso, Michael McVaugh, Iolanda Ventura (Part 3), Stefania Fortuna, Christina Savino, and Vivian Nutton (Part 4). See also Temkin O, Galenism. Rise and Decline of a Medical Philosophy. Ithaca-London: Cornell University Press; 1973; Boudon-Millot V, Galien. Tome I: Introduction générale, *Sur l'ordre de ses propres livres, Sur ses propres livres, Que l'excellent médecin est aussi philosophe* (CUF, Grec 453). Paris: Les Belles Lettres; 2007. pp. XCI-CCX; Nutton V, The Fortunes of Galen. In: Hankinson RJ (ed.), The Cambridge Companion to Galen. Cambridge: Cambridge University Press; 2008. pp. 355-390; id., Galen. A Thinking Doctor in Imperial Rome. London: Routledge; 2020; Fortuna S, Galen's Return to the West. In: Singer PN, Rosen RM (eds), Oxford Handbook of Galen. Oxford: Oxford University Press; 2024. pp. 558-581. On Galen's Latin manuscripts see the online catalogue by Fortuna S (ed.), Galeno latino. Catalogo della tradizione latina di Galeno. 2nd ed., Clion srl: 2021 (1st ed., Scuola Normale Superiore di Pisa: 2015), www.galenolatino.com.

   On Galen's Latin editions, many of which are available in the mentioned online catalogue *Galeno latino*, see Durling RJ, A Chronological Census of Renaissance Editions and Translations of Galen. Journal of the Warburg and Courtauld Institutes 1961;24:230-305; Fortuna S, Galeno latino, 1490-1533. Medicina nei Secoli 2005;17:469-505; ead., The Latin Editions of Galen's Opera omnia (1490-1625) and Their Prefaces. Early Science and Medicine 2012;17:391-412; also ead., Pseudo-Galenic Texts in the Editions of Galen (1490-1689). Medicina nei Secoli 2020;32:117-138. There are no specific studies on the Latin tradition of *CF*; in contrast, Iolanda Ventura published several contributions on the Latin tradition and reception of *SD*; see Ventura I, Galenic Pharmacology in the Middle Ages: Galen's *On the Capacities of Simple Drugs* and Its Reception between the Sixth and the Fourteenth Century. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019. pp. 393-433; ead., Galen's *Simple Drugs* and Its Medieval Readers: Some Notes on the Reception of Galen's Parmacology. Archives Internationales d'Histoire des Sciences 2020;70:176-214.; ead., John of Saint-Amand and Galen's *De simplicium medicamentorum facultatibus*. An Example of a Re-Appropriation of Galenic Pharmacology by the Medieval University Context. Galenos 2021;15:93-138.
5. See Maire B, Gargilius Martialis, *Les remèdes tirés des léguumes et des fruits* (CUF, Latin 367). Paris: Belles Lettres; 2002. pp.LIV-LIX and 215-216.
6. Temkin O, Ref. 4. p. 64.
7. Latin Oribasius was edited for the first time by Molinier A, Oeuvres d'Oribase. Vol. VI. Paris: À l'imprimerie nationale; 1976; see the recent edition of *Synopsis for Eustathius* VII by Gómez Costoya MC, Oribasio Latino, *Synopsis* VII. Estudio introductorio y edición crítica (MGL 4, 1-2). Santiago de Compostela: Andavira Editora; 2020. On

Latin Oribasius see also Vázquez Buján ME, Problemas generales de las antiguas traducciones médicas Latinas. Studi Medievali 1984;25, 1984:641-680; Fischer KD, In Augusto Beccarias Fuszstapfen. In: La conoscenza scientifica nell'Alto Medioevo (Settimane di Studio della Fondazione Centro Italiano di Studi sull'Alto Medioevo LXVII). Spoleto: Fondazione Centro Italiano di Studi sull'Alto Medioevo; 2020. pp. 452-472.

8. See the index of the *Medical Collections* in Raeder I, Oribasii Collectionum medicarum reliquiae, libri XLIX-L, libri incerti. Eclogae medicamentorum (CMG VI 2, 2). Leipzig-Berlin: Teubner; 1933. pp. 317-319 and 321-326.
9. See Garofalo I, Galen's Legacy in Alexandrian Texts Written in Greek, Latin, and Arabic. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019. pp. 62-85.
10. See Palmieri N, Il Galenismo alessandrino in Italia tra Antichità Tarda e Alto Medioevo. In: La conoscenza scientifica nell'Alto Medioevo (Settimane di Studio della Fondazione Centro Italiano di Studi sull'Alto Medioevo LXVII). Spoleto: Fondazione Centro Italiano di Studi sull'Alto Medioevo; 2020. pp. 237-272.
11. The ancient translation of *Sects for Beginners* was edited by Palmieri N, L'antica versione latina del *De sectis* di Galeno: *Pal. lat.* 1090. Pisa: ETS; 1989.
12. On the ancient translation of the *Therapeutic Method to Glaucon* see Fischer KD, Die spätlateinische *Übersetzung* von Galen, *Ad Glauconem* (XI 1-146 Kühn). Galenos 2013;6:103-116.
13. The lemmata of the ancient Latin translation of the *Art of Medicine* were edited by Palmieri N, Sur les traces d'une ancienne traduction latine de l'*Ars medica*. Latomus 1997;3:504-533. The edition of Agnellus' commentary on the *Pulse for Beginners*, together with the lemmata, was edited by Palmieri N, Agnellus de Ravenne, lectures galéniques: le *De pulsibus ad tirones*. Introduction, texte latin (adiuvante Ivan Garofalo), traduction et notes explicatives. Sante-Étienne: Publications de l'Université de Sante-Étienne; 2005.
14. On *SD* see Fischer KD, Galens Kapitel über das ἀγαρικόν und seine Überlieferung, oder: ein Latinist auf Abwegen. In: Martínez Manzano T, Hernández Muñoz FG (eds), Del manuscrito antiguo a la edición crítica de textos griegos. Homenaje a la profa Elsa García Novo. Madrid: Dykinson; 2020. pp. 55-68; Ventura I, Farmacologia e farmacoterapia nell'Alto Medioevo: trasmissione di testi, trasmissione di contenuti. In: La conoscenza scientifica nell'Alto Medioevo (Settimane di Studio della Fondazione Centro Italiano di Studi sull'Alto Medioevo LXVII). Spoleto: Fondazione Centro Italiano di Studi sull'Alto Medioevo; 2020. pp. 493-578. On the *Composition of Drugs according to Places* see Ferraces Rodríguez A, Magia, medicina y veterinaria en la Antigüedad Tadía. Editio princeps del recetario medico *Ad calculum*. Maia 2013;65:75-94.
15. See Fischer KD, Die vorsalernitanischen lateinischen Galenübersetzungen. Medicina nei Secoli 2013;25:673-713.
16. See Kwakkel E, Newton F, Medicine at Montecassino. Constantine the African and the Oldest Manuscript of His *Pantegni*. Turnhout: Brepols; 2019.
17. See the synthesis by Ventura I, La Scuola medica salernitana. In: Pontrandolfo A, Galdi A (eds), Storia di Salerno. Vol. I: Età antica e medievale. Salerno: D'Amato editore; 2020. pp. 249-263.
18. On *Articella* see Wallis F, Bartholomeus, Glose super Isagogen Iohannitii. Florence: Sismel-Edizioni del Galluzzo; 2022. pp. 1-7. On *Articella* manuscripts see O'Boyle C, Thirteenth-and Fourteenth-Century Copies of the *Ars medicine*. A Checklist and Contents Descriptions of the Manuscripts. Cambridge: Cambridge Wellcome Unit for the History

of Medicine, CSIC Barcelona Department of History of Science; 1998; on *Articella* editions see Arrizabalaga J, The *Articella* in the Early Press (c. 1476-1534). Cambridge: Cambridge Wellcome Unit for the History of Medicine, CSIC Barcelona Department of History of Science; 1998. The online catalogue of *Galeno latino* (Ref. 4) also includes *Articella* manuscripts and editions and provides more precise identifications of the translations of Galen's and Hippocrates' works contained therein.

19. Kwakkel E, Newton F, Ref. 16. pp. 205-209.
20. On William see Beullens P, The Friar and the Philosopher. William of Moerbeke and the Rise of Aristotle's Science in Medieval Europe. London: Routledge; 2023. On his translation of *CF* see Urso AM, Translating Galen in the Medieval West: The Greek-Latin Translations. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019. pp. 369-70.
21. Wilkins J, Ref. 2. p. XXXVI; Helmreich H, Ref. 2. p. XL.
22. See the article by Acerbi F, Vuillemin-Diem G, Un nouveau manuscript de la 'collection philosophique' utilisé par Guillaume de Moerbecke: le *Par. gr.* 2575. Przegląd Tomistyczny 2015;21:219-288, in which seven manuscripts in connection with William are listed, including *Par. suppl. gr.* 1156. However, there is no evidence that this manuscript was used by William for his translation of Aristotle's *History of Animals*, according to Beullens P, De historia animalium, Translatio Guillelmi de Moerbeka (Aristoteles Latinus XVII 2, I, 2). Turnhout: Brepols; 2021. pp. XXII-XXV.
23. On Nicholas see Nutton V, Niccolò in Context. Medicina nei Secoli 2013;25:941-956; Chandelier J, Niccolò da Reggio, Dizionario Biografico degli Italiani 2013;78, http://www.treccani.it/enciclopedia/niccolo-da-reggio_(Dizionario-Biografico)/; also Lo Parco F, Niccolò da Reggio antesignano del risorgimento dell'antichità ellenica nel secolo XIV da codici delle biblioteche italiane e straniere e da documenti e stampe rare. Memoria letta alla reale Accademia di Archeologia, Lettere e Belle Arti di Napoli. Naples: Cimmaruta; 1913. On his translations see the synthesis of Fortuna S, Il corpus delle traduzioni di Niccolò da Reggio (fl. 1308-1345). In: La medicina nel Basso Medioevo. Tradizioni e conflitti (Centro Italiano di Studi sul Basso Medioevo, Accademia Tudertina). Spoleto: Fondazione Centro Italiano di Studi sull'Alto Medioevo; 2019. pp. 285-312; also Urso AM, Ref. 20. pp. 372-375.
24. See Petit C, La tradition latine du traité des *Simples* de Galien: étude préliminaire. Medicina nei Secoli 2013;25:1063-1090.
25. See Fortuna S, Niccolò da Reggio and His Latin Translation of Galen's *Simple Drugs*. Archives Internationales d'Histoire des Sciences 2020;70:216-237.
26. See García Ballester L, The New Galen. A Challenge to Latin Galenism in Thirteenth-Century Montpellier. In: Fischer KD, Nickel D, Potter P (eds), Text and Tradition. Studies in Ancient Medicine and Its Transmission Presented to Jutta Kollesch. Leiden: Brill; 1998. pp. 55-83 (repr. in García Ballester L, Galen and Galenism. Theory and Medical Practice from Antiquity to the European Renaissance. Aldershot: Ashgate; 2002. V); Nutton V, Galen, On Problematical Movements. Cambridge: University Press; 2011; id., The New Galen Revised. Galenos 2017;11:73-80; McVaugh M, Galen in the Medieval Universities. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019. pp. 381-392.
27. See Nicoud M, Reguardati, Benedetto. Dizionario Biografico degli Italiani 2016;86, http://www.treccani.it/enciclopedia/benedetto-reguardati_(Dizionario-Biografico)/.
28. On Gerard and his medical translations see Long B, Arabic-Latin Translations: Transmission and Transformation. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to

the Reception of Galen. Leiden: Brill; 2019. pp. 344-358; Jacquart D, Les traductions médicales de Gérard de Crémone. Annali della Biblioteca Statale e Libreria Civica di Cremona 1990;41:57-70; Burnett C, The Coherence of the Arabic-Latin Translation Program in Toledo in the Twelfth Century. Science in Context 2001;14:249-288; McVaugh M, Towards Stylistic Grouping of the Translations of Gerard of Cremona. Medieval Studies 2009;71:99-112; id., The Latin Translation from Arabic by Gerard of Cremona. In: Bos G, McVaugh M, Schatzmiller J (eds), Transmitting a Text through Three Languages. The Future History of Galen's *Peri anomalou dyskrasias* (Transactions of the American Philosophical Society 104, 5). Philadelphia, PA: American Philosophical Society; 2014. pp. 9-24.

29. The edition of this text is in Burnett C, Ref. 28. pp. 273-287.
30. See Díaz Marcos M, Problemas de autoría en la traducción latina medieval del libro VI del *De simpl. med. fac.* de Galeno. Anuari de Filologia. Antiqua et Mediaeualia 2021;11,2:43-51; Ventura I, Ref. 4. pp. 404-406.
31. See Ullmann M, Die Medizin im Islam. Leiden: Brill; 1970. p. 47 n° 45.
32. See Fortuna S, René Chartier (1572-1664) e le edizioni latine di Galeno. In: Boudon-Millot V, Cobolet G, Jouanna J (eds), René Chartier (1572-1654) éditeur et traducteur d'Hippocrate et de Galien. Paris: Editions De Boccard; 2012. p. 320.
33. Bos G, Garofalo I, A Pseudo-Galenic Treatise on Regimen. The Hebrew and Latin Translations from Ḥunayn Ibn Isḥāq's Arabic Version. Aleph 2007;7:43-95, p. 46. On the summary of *CF* by Ḥunayn see Degen R, The Oldest Known Syriac Manuscript of Ḥunayn b. Isḥāq. In: Graffin F, Guillaumont A (eds), Symposium Syriacum 1976. Rome: Pontificium Institutum Orientalium Studiorum; 1978. pp. 63-71. An Italian translation of the complete *Continuous Dissolution* is in Poggi G, Uno spurio galenico *De dissolutione continua*. Traduzione e commento (Università degli Studi di Roma, Scuola di Perfezionamento in Storia della Medicina). Rome: Arti grafiche Cossidente; 1968.
34. In his edition of the *Continuous Dissolution* first part on nutrition, Bos provided some references to Galen's *Health* (Bos G, Garofalo I, Ref. 33). The second part of this text, not edited by Bos and Garofalo and concerning several foods (Galenus, Opera. Venice: Filippo Pinzi; 1490. Vol. I, cc. zz4v-6v), contains, e.g., nine passages on milk that have mostly parallels, though not literal, with *CF*, in which there is a long chapter on milk (III 14: 199-206 W = VI 682-689 K); however, these passages also show similarities with other works by Galen, the *Slimming Diet*, *Foods Productive of Good and Bad Humours*, *SD*, and probably with works on the same topic by other authors.
35. See note 4.
36. See Fortuna S, The Prefaces to the Medical Translations of the First Humanists. Traditio 2007;62:317-335; Petit C (ed.), Revisiting Medical Humanism in Renaissance Europe. Arts et Savoirs 2021;15. On the humanist Latin translations of Galen see Fortuna S, Editions and Translations of Galen from 1490 to 1540. In: Bouras-Vallianatos P, Zipser B (eds), Brill's Companion to the Reception of Galen. Leiden: Brill; 2019. pp. 437-452.
37. See Lonigo A (ed.), Nicolò Leoniceno (1428-1524), un umanista veneto nella storia della medicina. Atti del Convegno in Lonigo per il 590° anniversario della nascita. Padua: Ed. Elzeviro; 2019.
38. On Leoniceno's translations of Galen see the synthesis in Fortuna S, Nicolò Leoniceno e le edizioni Aldine dei medici greci. In: Boudon-Millot V, Garzya A, Jouanna J, Roselli A (eds), Ecdotica e ricezione dei testi medici greci. Atti del V Convegno internazionale (Napoli, 1-2 ottobre 2004). Naples: D'Auria; 2006. pp. 443-464; on Leoniceno's

translation of Galen's *Commentary on Aphorisms* see Savino C, Galeni In Hippocratis Aphorismos VI commentaria (CMG V 12, 6). Berlin: De Gruyter; 2020. pp. 57-58. On Leoniceno's library see Mugnai Carrara D, La biblioteca di Nicolò Leoniceno. Tra Aristotele e Galeno: cultura e libri di un medico umanista (Accademia toscana di scienze e lettere "La Colombaria"). Florence: Olschki; 1990; ead., Alla scoperta di una 'mirabile' biblioteca. In: Lonigo A (ed.), Nicolò Leoniceno (1428-1524), un umanista veneto nella storia della medicina. Atti del Convegno in Lonigo per il 590° anniversario della nascita. Padua: Ed. Elzeviro; 2019. pp. 97-130.

39. In addition to the bibliography on Galen's translators cited in Fortuna S, Ref. 36, see Marrone D, Thomas Linacre and the Italian Humanism. Philological and Interpretative Aspects in Linacre's Translations. In Marrone D, Thiene G, Luxon L (eds), English Students of Medicine at the University of Padua during the Renaissance. Padua: Padua University Press; 2016. pp. 45-76; Fortuna S, Savino C, Giorgio Valla and His Latin Translations of Galen. Medicina nei Secoli 2024;36(2):57-86.
40. See Leonicenus, De Plinii, et plurium aliorum medicorum in medicina erroribus. Ferrara: Giovanni Mazzocchi, 1509. c. 20v: *Haec enim sunt verba Galeni III de semplicibus medicaminibus liber sic. Cicuta hominem quidem interficit ob meatuum latitudinem et caloris abundantiam, ac propter magnam quam habent arteriae in attrahendo vim, pollens adhuc pertingit ad cor. Non exanimat autem sturnos ex contrariis causis* (Galen, XI 600, 7-11). The translations by Gerard and Nicholas are very different; see Vatican City, BAV, Urb. Lat. 248, f. 96r (Nicholas' translation); Galenus, Ref. 34. Vol. II, c. s1v (Gerard's translation).
41. Leoniceno's manuscript of *SD* was Paris, BnF, Grec 2157; see Mugnai Carrara D, Rif. 38 (1990). p. 111 (A16). This manuscript was annotated by the Anonymous Harvardianus, now identified with Alessandro Bondino; see Orlandi L, Al fianco di Aldo, per Galeno e Aristotele. L'identità dell''Anonymus Harvardianus' (tavv. VI-X). Italia Medievale e Umanistica 2022;63:281-315. Valla's manuscript of *SD* was Modena, BEU, α.P.5.18 (Puntoni 107); see Puntoni V, Indice dei codici greci della Biblioteca Estense di Modena. In: Samberger C (ed.), Catalogi codicum Graecorum qui in minoribus bibliothecis Italicis asservantur. Vol. I. Leipzig: Zentral-Antiquariat der Deutschen Demokratischen Republik; 1965. p.453. Barbaro's manuscript of *SD* was Vatican City, BAV, Pal. gr. 31; see Vendruscolo F, Per la biblioteca di Francesco ed Ermolao Barbaro: cinquant'anni dopo. In: Brockmann C, Deckers D, Harlfinger D, Valente S (eds), Griechisch-byzantinische Handschriftenforschung. Traditionen, Entwicklungen, neue Wege. Berlin: De Gruyter; 2020. p. 111.
42. Leoniceno's manuscript of *CF* was Paris, BnF, Grec 1883; see Mugnai Carrara D, Rif. 38 (1990). p. 116 (A 32). For a quotation of the *CF* medieval translation by William see Leonicenus, Rif. 40. c. 86r: *Galenus tamen libro secundo de alimentis, capite de sericis idest zinzifis, vel iuiubis, ingenue fatetur se non habere aliquid in ipsis testificari ad sanitatis conservationem, aut aegritudinum curationem. Sunt enim (ut inquit) cibus mulierum, et puerorum effrenatorum, paucique alimenti, et indigestibiles, simul cum hoc, quod neque eustomachum est alimentum, palam, quod et ipsum dant paucum corpori* (= Galenus, Rif. 34. Vol. II, c. k3v; Galen, VI 614, 11-16 K).
43. On Gaudanus and his translations of *Bloodletting* and *Leeches* see Calà I, Theodoricus Gerardus Gaudanus traduttore di Galeno. Medicina nei Secoli 2013;25:1091-1101. See also Fortuna S, Niccolò da Reggio e il *Vat. gr.* 283. Il caso dello pseudo-galenico *De hirudinibus, revulsione, cucurbitula, incisione et scarificatione* con edizione del testo greco e della traduzione latina. Micrologus 2023;31:345-383.

44. See Petit C, Ref. 24. pp. 1079-1083.
45. See Bietenholz PG, Joachim Martens. In: Bietenholz PG, Deutscher TB (eds), Contemporaries of Erasmus. A Biographical Register of the Renaissance and Reformation. Vol. II. Toronto: University of Toronto Press; 1987. p. 396.
46. See Fortuna S, Rif. 32. pp. 324 (*SD*), 320 (*CF*).
47. See Boutineau FE, Notice sur la vie et les oeuvres de Martin Grégoire médecin à Tours au XVIe siècle. Bulletin de la Société française d'histoire de la médecine 1904;3:35-64, https://www.biusante.parisdescartes.fr/histoire/medica/resultats/index.php?do=page&cote=bsfhmx1904x03&p=35.
48. On this revision of Galen's *Function of the Parts of the Body* see Berlier S, Les éditions en grec et en latin du *De usu partium* de Galien. Synthèse et nouveaux éléments. Galenos 2023;17:53-77.
49. See Gliozzi G, Brasavola (Brasavoli), Antonio, detto Antonio Musa, Dizionario Biografico degli Italiani 1972;14, http://www.treccani.it/enciclopedia/brasavola-antonio-detto-antonio-musa_(Dizionario-Biografico)/; Nutton V, The Rise of Medical Humanism: Ferrara 1464-1555. Renaissance Studies 1997;11:2-19; Pietrobelli A, Commenter Galien et Hippocrate à la Renaissance ou comment Brasavola met à mal le règime grec. Renaissance and Reformation 2010;33,3:99-140.
50. On commentaries on *SD* see Ackermann JCG, Historia literaria Claudii Galeni. In: Kühn CG, Claudii Galeni opera omnia. Vol. I. Leipzig: Knobloch; 1821. pp. CXII-CXIII, n° 49; whereas there is no section on commentaries on *CF* (pp. CXXXVI-CXXXVII, n° 66). On a Latin edition of *CF* in the seventeenth century see Galenus, De alimentorum facultatibus libri 3. Ex Martini Gregorii interpretatione. Leiden: Wilhelm Christian; 1633. On vernacular editions of *SD* and *CF* see Durling, Ref. 4. p. 293, n° 13 d (*CF*); p. 291, n° 108 c (*SD*).