Galen's Reception in Byzantium: Symeon Seth and his Refutation of Galenic Theories on Human Physiology

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GALEN'S RECEPTION in the Byzantine period has not so far been the subject of a systematic study, and readers are limited to short studies usually covering a broad period.[1] This article aims to shed light on criticism of Galen and its context in the Byzantine medical literature. I have chosen to focus on the interesting case of Symeon Seth's refutation of Galenic theories on physiology, as it is the sole example of a treatise of this kind in the Byzantine period. First I shall give a brief background on the role of Galenic medical knowledge in Byzantium and its various modes of reception; this is followed by an overview of Symeon's corpus and activity. The main part of the paper consists of a commentary on Symeon's criticism of Galen's theories. The study is accompanied by the first critical edition of the text and an English translation, which I hope will stimulate further interest in Galen's presence in Byzantine medical texts.

Galen in Byzantine medical literature

Galenic works were continuously copied and circulated

[1] For the reception of Galen in Late Antiquity see the relevant section in Oswei Temkin, *Galenism: Rise and Decline of a Medical Philosophy* (Ithaca 1973) 51–94. Vivian Nutton, "Galen in Byzantium," in Michael Grünbart et al. (eds.), *Material Culture and Well-Being in Byzantium* (Vienna 2007) 171–176, provides an overview of Galenic reception in the Byzantine period.

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throughout the Byzantine age,[2] although the vast majority of the surviving manuscripts come from the later period.[3] Given the great loss of Byzantine books during the occupation of Constantinople after the Fourth Crusade (1204), the same happened to many classical authors.[4] This overview, however, focuses on Galen's reception as a textual source in Byzantine medical literature, which will provide us with the appropriate context in which to discuss the case of Symeon Seth.[5] In examining medical literature in Byzantium, we can generally divide the output into two phases. First, the period from the fourth up to the seventh century, when the main focus is on Alexandria; and second, the period up to 1453, when the focus of intel-

[2] On the manuscript tradition up to ca. 1300 see Nigel Wilson, "Aspects of the Transmission of Galen," in Guglielmo Cavallo (ed.), *Le Strade del testo* (Bari 1987) 47–64.

[3] Cf. Hermann Diels, *Die Handschriften der antiken Ärzte* I–III (Berlin 1905–1908) s.v. Galenos.

[4] On the destruction of Byzantine book culture in 1204 see Stratis Papaioannou, "Fragile Literature: Byzantine Letter-collections and the Case of Michael Psellos," in P. Odorico (ed.), *La face cachée de la littérature byzantine. Le texte en tant que message immédiat* (Paris 2012) 289–328, at 320–322, who discusses the case of the prominent eleventh-century author Michael Psellos.

[5] Galen was also mentioned as a prominent medical authority in texts belonging to other genres of Byzantine literature, confirming his uncontested authority. See for example Aimilios Mavroudis, "Ο Μιχαήλ Ιταλικός και ο Γαληνός," *Hellenica* 43 (1993) 29–44, who provides a commentary on the twelfth-century funeral oration for the doctor Michael Pantechnes by Michael Italikos, where the doctor's expertise is compared to that of Diocles, Archigenes, Galen, and Hippocrates. Another interesting example comes from the anonymous twelfth-century satirical dialogue *Timarion* where Galen is addressed as δαιμόνιος ("divine") and presented as the greatest of the medical authors (29.715–724, ed. Roberto Romano, *Pseudo-Luciano, Timarione* [Naples 1974]). For a commentary see Evangelos Konstantinou, "Die byzantinische Medizin im Lichte der Anonymen Satire 'Timarion'," *Βυζαντινά* 12 (1983) 159–181, at 173; and Karl-Heinz Leven, "La médecine byzantine vue à travers la satire Timarion (XII^{e} siècle)," in F.-O. Touati (ed.), *Maladies, médecines et sociétés. Approches historiques pour le présent* (Paris 1993) 129–135, at 132–133.

lectual activity was Constantinople.[6]

In the first period, we mainly see two distinct modes of reception of the Galenic works. First we have the encyclopaedists such as Oribasios (ca. 325–after 395/6), Paul of Aegina (late sixth century–died after 642), and Aetios of Amida (first half of the sixth century), for whom the Galenic corpus constituted the basis of their compilations, thus ensuring its transmission and preservation for centuries to come.[7] This involved adaptation of the material to fit contemporary needs, as for example in the case of Paul of Aegina's medical epitome, designed as a practical manual for immediate consultation that physicians could carry anywhere just as lawyers had portable legal synopses. Alexander of Tralles (ca. 525–ca. 605), on the other hand, as a result of his own extensive clinical experience, produced a medical handbook marked by his persistent attempts to supplement pre-existing material with new elements.[8] Although he calls Galen θειότατος ("most divine")—an appellation otherwise given only to Hippocrates and Archigenes—and uses the work as a source for various parts of his recommendations, he does not hesitate to disagree with the master's views where common sense required it.[9] Although this applies only to iso-

[6] Cf. Oswei Temkin, "Byzantine Medicine: Tradition and Empiricism," *DOP* 16 (1962) 97–115, at 97. For an overview of Byzantine medical literature see Herbert Hunger, *Die hochsprachliche profane Literatur der Byzantiner* II (Munich 1978) 287–320.

[7] See Philip van der Eijk, "Principles and Practices of Compilation and Abbreviation in the Medical 'Encyclopaedias' of Late Antiquity," in M. Horster and C. Reitz (eds.), *Condensing Texts – Condensed Texts* (Stuttgart 2010) 519–554, who provides a comparative study on the various techniques of compilation used by the three authors, with a particular focus on Galenic material.

[8] On Alexander's clinical experience see Petros Bouras-Vallianatos, "Clinical Experience in Late Antiquity: Alexander of Tralles and the Therapy of Epilepsy," *Medical History* 58 (2014) 337–353.

[9] So for example *Therapeutics* 5.4, ed. Theodor Puschmann, *Alexander von Tralles* I (Vienna 1878) 153.17–155.28, where Alexander appears to take an ironic approach to Galen. On the reception of Galen by Alexander see

lated instances in Alexander's corpus, it is the first attempt by an early Byzantine medical author to judge Galenic views. Beside the prevalence of the Galenic corpus in early Byzantine medical compilations, there are at least two commentaries on Galenic works, by Stephen and an unknown author.[10] The structure of the texts shows familiarity with contemporary lectures at the school of Alexandria, but they lack any note of criticism.[11] The intention here is clearly practical, to provide educational material for contemporary students.

In subsequent centuries several Byzantine compilations were produced on a variety of medical subjects such as anatomy, dietetics, and pharmacology. We can see many references to Galen, mostly uncritical, and usually as a way of giving the text more authority rather than closely following passages from Galenic texts.[12] It is notable that there is no further attempt by

Alessia Guardasole, "L'héritage de Galien dans l'oeuvre d'Alexandre de Tralles," in J. Jouanna and J. Leclant (eds.), *La médecine grecque antique* (Paris 2004) 219–234. On Alexander's use of the term θειότατος see Petros Bouras-Vallianatos, "Modelled on Archigenes *theiotatos*: Alexander of Tralles and his Use of Natural Remedies (*physika*)," *Mnemosyne* (forthcoming).

[10] The Alexandrian philosopher and teacher Stephen is the author of the commentary on Galen's *Therapeutics to Glaucon*: Keith Dickson, *Stephanus the Philosopher and Physician* (Leiden 1998). On the anonymous commentary on Galen's *On Sects* see Oswei Temkin, "Studies on Late Alexandrian Medicine: I. Alexandrian Commentaries on Galen's *De Sectis ad Introducendos*," *Bulletin of the Institute of the History of Medicine* 3 (1935) 405–430, at 423–428.

[11] There are a couple of times when Stephen actually defends Galen's statements, e.g. in the case of the debate over whether or not the womb should be considered an autonomous entity (198, Dickson 234–238).

[12] See e.g. the *Iatrosophion* attributed to John Archiatros, probably composed in the twelfth/thireenth century, which starts by addressing Galen: Barbara Zipser, *John the Physician's Therapeutics* (Leiden 2009) 70: Σύντομος διδασκαλία τοῦ θαυμασιωτάτου Γαληνοῦ. Among late Byzantine manuscripts are also scattered examples of anonymous synopses which in fact include material from Galen's corpus, as on the theory of pulse and uroscopy; see Petros Bouras-Vallianatos, "Greek Manuscripts at the Wellcome Library in London: A Descriptive Catalogue," *Medical History* 59 (2015) 275–326, s.v. *MS.MSL.* 52 and 60.

Byzantine scholars to provide any commentary on Galenic works or to critically assess his oeuvre, with a few notable exceptions. For example, although John Zacharias Aktouarios (ca. 1275–ca. 1330), whose work *On Urines* offers an innovative approach to the little-studied field of uroscopy,[13] praises Galen's contribution to the study of crises and critical days, calling him σοφώτατον ("most wise") like his predecessors, he is caustic about the fact that Galen had never treated the field of uroscopy properly.[14] Yet John's criticism does not refer to a particular Galenic passage or work, as, for example, Alexander of Tralles had done. Finally, Galen's continuing authority in Byzantine medical practice and education is also attested in the period around 1453, when the famous intellectual John Argyropoulos (ca. 1415–1487), based in the Kral *xenon* in Constantinople, gave lectures and wrote scholia on Galen's treatises.[15]

[13] See Petros Bouras-Vallianatos, "Case Histories in Late Byzantium: Reading the Patient in John Zacharias Aktouarios' *On Urines*," in G. Petridou and C. Thumiger (eds.), *Approaches to the Patient in the Ancient World* (Leiden forthcoming), providing a commentary on the sole example of case histories in Byzantine medical literature.

[14] *On Urines* 1.2: J. Ideler, *Physici et medici Graeci minors* II (Berlin 1842) 4.30–5.3. In the conclusion to his work (7.17: 190.2–34) John refers once more to the incomplete treatment of uroscopy by Galen. But it is noteworthy that in all other mentions, John praises Galen and suggests that his readers should consult particular works by him in order to increase their knowledge of certain medical topics in connection with uroscopy. This is particularly common in the last two books focusing on prognosis where, for example, in *On Urines* 6.10 (158.22–23), 7.2 (174.36–175.4), 7.16 (187.20–14), and 7.16 (188.8–10) John refers to Galen's *On Crises* and *On Critical Days*.

[15] On Argyropoulos and his students see Brigitte Mondrain, "Jean Argyropoulos professeur à Constantinople et ses auditeurs médecins, d'Andronic Eparque à Démétrios Angelos," in G. Makris and C. Scholz (eds.), *Πολύπλευρος νοῦς: Miscellanea für Peter Schreiner* (Munich 2000) 223–250. See also Brigitte Mondrain, "Comment était lu Galien à Byzance dans la première moitié du XV[e] siècle? Contribution à quelques aspects de l'histoire des textes," in A. Garzya and J. Jouanna (eds.), *I testi medici greci.*

Symeon Seth and his literary output

We know very little about Symeon's life, and his works have never been examined thoroughly.[16] I present here the available evidence about Symeon and a fresh evaluation of his corpus and dates of activity. Symeon is the author of four works: a treatise on dietetics, *Syntagma peri Trophōn Dynameōn* (*Treatise on the Properties of Foodstuffs*);[17] two works concentrating on natural philosophy and astronomy, *Peri Chreias tōn Ouraniōn Sōmatōn* (*On the Utility of the Heavenly Bodies*) and *Synopsis tōn Physikōn* (*Synopsis of Inquiries on Nature*);[18] and the short work *Antirrhētikos pros Galēnon* (*Refutation of Galen*).[19] Additionally, he translated into

Tradizione e ecdotica (Naples 2003) 361–384; and Anna Maria Ieraci Bio, "Giovanni Argiropulo e la medicina, tra l'Italia e Constantinopoli," in A. Rigo et al. (eds.), *Vie per Bisanzio* (Bari 2013) 788–803. Thanks to Argyropoulos' circle of students, today we have the sole manuscript of Galen's otherwise lost text *Avoiding Distress*, discovered only in 2005 by Antoine Pietrobelli: "Variation autour du *Thessalonicensis Vlatadon* 14: un manuscrit copié au *xénon* du Kral, peu avant la chute de Constantinople," *REByz* 68 (2010) 95–126.

[16] On Seth's biography and writings see Marc-Émile-Prosper-Louis Brunet, *Siméon Seth médecin de l'empereur Michel Doucas; sa vie, son oeuvre. Première traduction en français du traité 'Recueil des propriétés des aliments par ordre alphabétique'* (Bordeaux 1939) 13–29; Lars-Olof Sjöberg, *Stephanites und Ichnelates: Überlieferungsgeschichte und Text* (Stockholm 1962) 87–99; Alexander Kazhdan, "Symeon Seth," *ODB* III (1991) 1882–1883; Hélène Condylis-Bassoukos, *Stéphanitès kai Ichnélatès, traduction grecque (XI^e siècle) du livre Kalila wa-Dimna d'Ibn al-Muquffa' (VIII^e siècle)* (Leuven 1997) xxiii–xxv; Johannes Niehoff-Panagiotidis, *Übersetzung und Rezeption. Die byzantinisch-neugriechischen und altspanischen Versionen von Kalīla wa Dimna* (Wiesbaden 2003) 36–38; and Paul Magdalino, "The Porphyrogenita and the Astrologers: A Commentary on *Alexiad* VI.7.1–7," in C. Dendrinos et al. (eds.), *Porphyrogenita: Essays on the History and Literature of Byzantium and the Latin East in Honour of Julian Chrysostomides* (Aldershot 2003) 15–31, at 19–21, who offers the best reconstruction of Symeon's life, although he does not refer to our text.

[17] Bernard Langkavel, *Simeonis Sethi Syntagma de alimentorum facultatibus* (Leipzig 1868).

[18] Armand Delatte, *Anecdota Atheniensia et alia* II (Paris 1939) 17–89 and 91–126.

[19] In the past some other works have also been attributed to Symeon.

Greek the Arabic version of a collection of ancient Indian animal fables, *Kalīla wa-Dimna*.[20] In the manuscripts Symeon appears as *magistros* or *vestes* and philosopher while his place of origin is indicated as Antioch.[21] Although his birthplace cannot

These identifications are not certain and should be treated with caution. Paul Magdalino, "The Byzantine Reception of Classical Astrology," in C. Holmes and J. Waring (eds.), *Literacy, Education and Manuscript Transmission in Byzantium and Beyond* (Leiden 2002) 33–57, at 47–49, considers the short excerpt found in the fourteenth-century *Vat.gr.* 1056 (fol. 32r) entitled Τοῦ Σὴθ ἐκείνου as part of a larger work by Symeon designed for experts and dealing with complex calculations of the movement of the fixed stars. The text has been edited by David Pingree, "The Indian and Pseudo-Indian Passages in Greek and Latin Astronomical and Astrological Texts," *Viator* 7 (1976) 141–195, at 192. Furthermore, Marie-Hélène Congourdeau, "Le traducteur grec du traité de Rhazès sur la variole," in A. Garzya and J. Jouanna (eds.), *Storia e ecdotica dei testi medici greci* (Naples 1996) 99–111, considers Symeon as the author of the Greek translation of al-Rāzī's short treatise *On Smallpox and Measles*. The text has been edited by Aristotelis Kousis, "Ραζῆ Λόγος Περὶ Λοιμικῆς ἐξελληνισθεὶς ἐκ τῆς Σύρων διαλέκτου εἰς τὴν ἡμετέραν," *Βυζαντινῶν Ἰατρῶν τὰ Εὑρισκόμενα* 19 (1909) 1–18. Finally, there is a short lexicon of synonymous words for plant names surviving in two manuscripts, *Vindob.med.gr.* 25 (15th-cent., fol. 1r–9v) and *Iberiticus* 182 (16th-cent., fol. 145r–156v); according to a later inscription in the earlier manuscript, the work is ascribed to Symeon. The text has been edited by Delatte, *Anecdota* II 340–361.10.

[20] Sjöberg, *Stephanites* 151–244.

[21] See for example the title in his *Syntagma* 18: Σύνταγμα κατὰ στοιχεῖον περὶ τροφῶν δυνάμεων συγγραφὲν παρὰ Συμεῶνος μαγίστρου ἀντιοχένου τοῦ Σηθί, καὶ δοθὲν Μιχαήλῳ τῷ βασιλεῖ, and the title in some manuscripts of his *Synopsis tōn Physikōn*, II 17 Delatte: Σύνοψις καὶ ἀπάνθισμα φυσικῶν τε καὶ φιλοσόφων δογμάτων τοῦ σοφωτάτου κυροῦ Συμεὼν βέστου τοῦ Σήθ. Some of Seth's biographers have also suggested that the genitive τοῦ Σηθί or τοῦ Σήθ might be Symeon's patronymic rather than a family name; but this does not change anything, since we are not aware of anyone of that name in eleventh-century Byzantium. We find only a certain Seth Skleros, who was blinded almost a century later in 1166/7 by Manuel II Komnenos for professing astrology; in this case Seth is presumably his first name. For Seth Skleros in the context of the twelfth-century milieu with references to primary sources see Paul Magdalino, "Occult Science and Imperial Power in Byzantine History and Historiography (9th–12th Centuries)," in P. Magdalino and M. Mavroudi (eds.), *The Occult Sciences in Byzantium* (Geneva

be determined with certainty, it is clear that, at some point, he received the imperial office of *magistros*, as is confirmed in the *Diataxis* written by the government official and historian Michael Attaleiates (ca. 1025–ca. 1080).[22] The title *magistros* began to lose its significance in the late eleventh century; it was usually combined with the honorific *vestes* and given to middle-ranking imperial officials and foreign mercenaries such as Roussel de Bailleul (Rouselios) (d. 1077).[23]

Symeon's most popular work was his *Syntagma*, which circulated in a large number of manuscripts in the late Byzantine and post-Byzantine period.[24] This is an alphabetical collection giving the properties of 183 different kinds of foodstuffs. Among his Greek sources are Hippocrates, Dioscorides, and Galen, while he refers to Persian (Περσῶν), Arabic (Ἀγαρηνῶν), and Indian (Ἰνδῶν) sources.[25] Among the various references to oriental materia medica one can find the earliest mention in Byzantine medical literature of ingredients such as jujube (ζίνζιφον), hashish (κάναβος), and ambergris (ἄμπαρ).[26] Symeon is

2006) 119–162, at 148–156.

[22] Michael Attaleiates *Diataxis* 1765–1766: Paul Gautier, "Le Diataxis de Michel Attaliate," *REByz* 39 (1981) 5–143, at 126–127. According to this supplement to the text—probably dating to after 1112—among the items purchased after the death of Attaleiates were some books, including a gospel book with a wooden cover, previously owned by the *magistros* Symeon Seth. On Symeon Seth and Attaleiates see Dimitris Krallis, *Michael Attaleiates and the Politics of Imperial Decline in Eleventh-Century Byzantium* (Tempe 2012) 49–50.

[23] See A. Kazhdan, "Magistros," "Vestes," *ODB* II 1267, III 2162; and on *magistros* R. Guilland, "Études sur l'histoire administrative de l'empire byzantin: L'ordre (taxis) des Maîtres," *EpetByz* 39–40 (1972/3) 14–28.

[24] For a study of the textual tradition see G. Helmreich, *Handschriftliche Studien zu Symeon Seth* (Ansbach 1913).

[25] E.g. *Syntagma* 1.1–5, 75.7–9, 88.21–3, and 103.18–20. French transl.: Brunet, *Siméon Seth* 40–119.

[26] *Syntagma* 60.22–61.7, 40.9–18, and 26.1–14. On Seth's introduction of oriental ingredients to Byzantine medicine see Georg Harig, "Von den arabischen Quellen des Symeon Seth," *MHJ* 2 (1967) 248–268. In particular, on Symeon's references to cannabis, see David Deakle, "Cognoscenti of Cannabis II: Simeon Seth on Cannabis," in E. Russo and F. Grotenhermen

also credited with the introduction of the julep (ζουλάπιον, 41.5–13), an Arab sugar-based concoction, which became extremely widespread in late Byzantium. The work was presented (δοθέν) to the Emperor Michael VII Doukas (r. 1071–1078), which might suggest that Symeon was attempting to establish himself in the capital and attract imperial patronage. Michael VII was well-educated, having received personal tuition from the polymath and imperial administrator Michael Psellos (1018–ca. 1076).[27] Psellos himself composed the *De omnifaria doctrina* for the young emperor, including, among other things, some pieces on basic medical knowledge.[28] What is particularly striking is that the title of some chapters in Symeon's *Synopsis tōn Physikōn* coincide with those of Psellos' *De omnifaria doctrina*.[29] It is shorter than Psellos' text, and, although both works comprise compilations of earlier material, Symeon's focuses mainly on natural philosophy, usually offering longer accounts on particular topics than Psellos does. In the chapter on eclipses, Symeon mentions that he was in Egypt during the total solar eclipse in Isaac Komnenos' reign (8 June 1057–22 November 1059).[30] We are aware of two during that period: on

(eds.), *Handbook of Cannabis Therapeutics: From Bench to Bedside* (New York 2006) 17–21.

[27] On Psellos' connections with Michael VII see Anthony Kaldellis, *Mothers and Sons, Fathers and Daughters: The Byzantine Family of Michael Psellos* (Notre Dame 2006) 8–10, and Stratis Papaioannou, *Michael Psellos: Rhetoric and Authorship in Byzantium* (Cambridge 2013) 11–13.

[28] E.g. 108, 109, 110, 111, 112, 113, 114, 115, 117, 118, 119, 192: ed. L. G. Westerink, *De omnifaria doctrina* (Nijmegen 1948). The text survives in at least four distinct redactions of which the second seems to have been compiled specifically for Michael VII (Westerink 1–14).

[29] As a result Symeon's text is appended to that of Psellos in some manuscripts. On the interrelation between the two works see Ioannis Telelis, "Οι λόγιοι του 11ου αιώνα και ο Αριστοτελισμός: Η περίπτωση των 'Μετεωρολογικών'," in V. Vlysidou, *Η αυτοκρατορία σε κρίση(;) Το Βυζάντιο τον 11ο αιώνα* (Athens 2003) 425–442, at 429–431.

[30] Delatte, *Anecdota* II 53.9–13: οὐκ ἐν πάσῃ δὲ τῇ οἰκουμένῃ ὁ ἥλιος ἐκλείπων φαίνεται, ἀλλὰ παρὰ μέρεσί τισι. καὶ γὰρ ἐνταῦθα ἐπὶ τῆς τοῦ

25 February 1058 and 15 February 1059. Since we have no details attesting the presence of Symeon in Constantinople before these dates, we may assume that he would not have arrived in Constantinople before 1058 or 1059. This coupled with the fact that the text is addressed to an unnamed emperor,[31] and is intended for beginners, could suggest that it was written for Michael VII Doukas,[32] whose interest in natural philosophy is well known. Thus the likelihood of literary emulation or competition between Symeon and Michael Psellos should not be overlooked.

Symeon seems subsequently to have managed to obtain imperial recognition. His translation project, mentioned above, was executed at the behest (προστάξει) of Alexios I Komnenos (r. 1081–1118) and was given the title *Stephanitēs and Ichnēlatēs*.[33] Even more striking is the reference to Seth by Alexios' historian daughter Anna Komnene (1083–ca. 1153/4) in her *Alexiad*, written around 1148. Anna refers to Seth as *mathēmatikos* and able to predict the future through the use of complex calculations based on astrology.[34] He appears to be an imperial

Κομνηνοῦ βασιλείας ὅλος ἐκλείψας πρὸς δυσμαῖς, ἐν Αἰγύπτῳ οὐχ ὅλος ἐξέλιπεν, ὡς ἐκεῖσε παραγεγονὼς ἠκριβωσάμην.

[31] Delatte, *Anecdota* II 17.3: ὁ μὲν Πλούταρχος, ὦ μέγιστε καὶ θειότατε βασιλεῦ, διαφόρους δόξας ἀπαριθμούμενος […].

[32] See Magdalino, *Classical Astrology* 46, who considers both *Synopsis* and his short *Peri Chreias tōn Ouraniōn Sōmatōn* to have been written for Michael VII because they take the form of treatises for beginners.

[33] Sjöberg, *Stephanites* 151: Συγγραφὴ περὶ τῶν κατὰ τὸν βίον πραγμάτων· ἐκτεθεῖσα διὰ μυθικῶν παραδειγμάτων […] ἐξελληνισθεῖσα δὲ ἐν Κωνσταντινουπόλει προστάξει τοῦ ἀοιδίμου βασιλέως κυροῦ Ἀλεξίου τοῦ Κομνηνοῦ. It is worth noting that at the end of the eleventh century, Michael Andreopoulos translated the *Book of the Philosopher Syntipas* from Syriac into Greek for Gabriel, the ruler of Melitene: see H.-G. Beck, *Geschichte der byzantinischen Volksliteratur* (Munich 1971) 45–48.

[34] *Alex.* 6.7: τὴν δὲ τοῦ Ῥομπέρτου τελευτὴν μαθηματικός τις Σὴθ καλούμενος μεγάλα ἐπ' ἀστρολογίᾳ αὐχῶν μετὰ τὴν εἰς τὸ Ἰλλυρικὸν αὐτοῦ διαπεραίωσιν προειρήκει διὰ χρησμοῦ […] οὐ μὴν διὰ τοῦτο αὐχμός τις ἦν ἀστρολόγων τὸ τηνικάδε, ἀλλὰ καὶ ὁ εἰρημένος Σὴθ κατ' ἐκεῖνο καιροῦ ἐξήνθει καὶ ὁ Αἰγύπτιος ἐκεῖνος Ἀλεξανδρεὺς πολὺς ἦν τὰ τῆς ἀστρολογίας

astrologer in Alexios' reign, who at some point fell into disfavour and was confined in Raidestos, in a residence provided by the emperor. In particular, Symeon is mentioned as having predicted the death of Robert Guiscard (ca. 1015–17 July 1085). We should note that astrology and astronomy were not considered mutually exclusive and Byzantine scholars used to forecast events by means of astronomical observations.[35]

Seth's interest in astronomy is also shown in his short work *Peri Chreias tōn Ouraniōn Sōmatōn*, a compilation like his *Synopsis* intended for beginners and based mainly on Aristotle and Ptolemy.[36] However, according to Anna and in contrast to the manuscript tradition, Symeon's place of origin is given as Alexandria. Nevertheless, in this respect both Alexandria and Antioch would fit well with Symeon's profile, as he seems to be an expert in Arabic. As we shall see, both cities were also connected with important contemporary Islamic medical authors with side interests in astronomy, such as the Nestorian theologian, philosopher, physician, and astrologer Ibn-Buṭlān.

The last piece of information about Symeon's life comes from the *typikon* of the Pantokrator monastery in Constantinople dated 1136. Among the various properties given to the institution by John II Komnenos (r. 1118–1143) there is mention of a certain "house of Seth" at Raidestos,[37] which confirms

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ἐμφαίνων ὄργια· […] δειλιάσας δὲ ἵνα μὴ πολλῶν βλάβη γένηται καὶ πρὸς τὴν ματαιότητα τῆς ἀστρολογίας ἀποκλίνωσιν ἅπαντες, κατὰ τὴν Ῥαιδεστὸν τούτῳ τὰς διατριβὰς ἀφώρισε τῆς πόλεως ἀπελάσας, πολλὴν τὴν περὶ αὐτὸν προμήθειαν ἐνδειξάμενος ὥστε δαψιλῶς αὐτῷ τὰ πρὸς χρῆσιν ἐκ τῶν βασιλικῶν ταμιείων ἐπιχορηγεῖσθαι.

[35] On astrological divination in the Komnenian period see Paul Magdalino, *L'Orthodoxie des astrologues* (Paris 2006) 91–107; see also Anne Tihon, "Astrological Promenade in Byzantium in the Early Palaiologan Period," in *The Occult Sciences* 265–290.

[36] Although the purpose of this work was similar to that of his *Synopsis tōn Physikōn*, there are no allusions which could give it an approximate date.

[37] Paul Gautier, "Le Typikon du Christ Sauveur Pantocrator," *REByz* 32 (1974) 1–145, at 114–115: ὁ κατὰ Ῥαιδεστὸν οἶκος τοῦ Σὴθ μετὰ καὶ τῶν ἐνοικικῶν αὐτοῦ.

Anna's account and indicates that at some point before 1136 the residence had been returned to the emperor.

We can conclude that Symeon is likely to have arrived in Constantinople from either Antioch or Alexandria sometime after 1058/9, the year he was in Egypt, and most probably around 1071, i.e. the beginning of Michael VII's reign. He was exiled to Raidestos at some point before 1112, when he appears to have sold part of his library, and must have died not very much later. It is important to note the absence of evidence that Symeon ever practised medicine and the fact that nothing of the sort can be deduced from his works or contemporary sources, including epistolography, in which genre Symeon is not attested as a correspondent in any edited collection.

Refuting Galen's views on physiology

Antirrhētikos pros Galēnon or *Refutation of Galen* survives in one fifteenth-century manuscript, *Baroccianus* 224.[38] Symeon's name, title (μάγιστρος as is commonly found in other MSS.), and Antioch as his origin are provided in the title, and the manuscript contains other works by Seth such as the *Syntagma*.[39] Although we do not have any cross-references to the *Refutation*

[38] I have consulted all catalogues containing manuscript entries with Symeon Seth's works, without finding any reference to the *Refutation of Galen*. Since the work is short, not well known, and not included in Diels' *Handschriften*, it may not have been catalogued properly in the existing catalogues. A large proportion of the manuscripts have also been consulted *in situ* and this is still an on-going process which will hopefully reveal other witnesses in the future. The text was first edited and translated into French by C. V. Daremberg, *Notices et extraits des manuscrits médicaux grecs, latins et français des principales bibliothèques de l'Europe* (Paris 1853) 44–47, 229–233.

[39] For the contents of the manuscript, although with occasional inconsistencies, see Henricus Coxe, *Catalogi codicum manuscriptorum Bibliothecae Bodleianae* I (Oxford 1853) 390–392; Diels, *Handschriften* s.v. *Baroccianus* 224 and 264. Alain Touwaide, "Byzantine Medical Manuscripts: Towards a New Catalogue, with a Specimen for an Annotated Checklist of Manuscripts based on an Index of Diels' Catalogue," *Byzantion* 79 (2009) 453–595, at 541, has rightly observed that some treatises contained in *Baroc.* 224 have been wrongly ascribed by Diels to *Baroc.* 264.

of Galen in any of Seth's other works or in any contemporary authors, there are no good reasons to dispute its authorship.[40] Symeon shows a similarly critical attitude towards Galen—if not to any great extent—in his other works, something not common in the Byzantine period. Galen's *On the Properties of Foodstuffs* is one of Symeon's main sources in the *Syntagma*. Symeon makes twelve references to Galen altogether, questioning his advice in two of them.[41] It is important to note that while he mentions Hippocrates and Dioscorides by name as well, he does not make any evaluation of their advice.[42] In the most interesting case Symeon does not hesitate to appear quite

[40] The fact that Michael Psellos appears in some manuscripts as the author of Symeon's *Synopsis* is explained by the close relationship between Symeon's text and that of Psellos. The same happens in some manuscripts in the tradition of *Syntagma*, probably because it shares a well-known addressee with Psellos' texts, viz. Michael VII Doukas; see Paul Moore, *Iter Psellianum* (Toronto 2005) 437–444, who considers *Syntagma* a revised version of an earlier work by Psellos. However, this is based solely on Georgios Costomiris, "Études sur les écrits inédits des anciens médecins grecs," *REG* 5 (1892) 61–72, at 68–69, an initial conclusion after a collation of *Paris.gr.* 2154 containing the dietetic treatise attributed to Psellos, and Langkavel's edition of Symeon's text. Before we come to any conclusion on this and in the absence of a detailed study, note that, although Symeon's text is uniquely embellished with oriental materia medica, he would probably have consulted earlier manuals on the subject, including a much-circulated dietetic treatise attributed to Theophanes Chrysobalantes (ca. tenth century), which again appears in some manuscripts as the work of Psellos; cf. Moore 426–432. Two different versions of Theophanes' text have been edited so far: Ideler, *Physici* II 257–281, and F. Z. Emerins, *Anecdota medica Graeca* (Leiden 1840) 225–275; see Laura Felici, "L'opera medica di Teofane Nonno in manoscritti inediti," *Acta medicae historiae Patavina* 28 (1981/2) 59–74, at 66–70. Furthermore, Psellos himself never showed a particularly critical attitude towards medicine and all his medical writings are largely compilations of earlier sources; on his medical works see Robert Volk, *Der medizinische Inhalt der Schriften des Michael Psellos* (Munich 1990).

[41] Symeon presents Galen's advice without criticism at *Syntagma* 70.1–2, 75.8–11, 87.10–11, 93.14–25, 94.5–10, 101.6–7, 114.4–5, 115.8–10, and 117.8–11, while he shows a certain reservation at 73.13–16 and 106.15–19.

[42] *Syntagma* 32.5–7, 88.21–23, and 75.7–8, 91.16–17 respectively.

ironic:

> I am astonished at Galen, who marvels at those buying large mullets because he thinks that smaller mullets have flesh that is sweeter and easier to digest. Smaller mullets are indeed easier to digest, but not in any way sweeter.[43]

Symeon disputes Galen[44] about the taste of small mullets, a basic characteristic of an aliment. However, he appears even more acerbic in his *Peri Chreias tōn Ouraniōn Sōmatōn* where, in discussing the substantial nature and size of the sun, he calls a Galenic statement in *On the Function of the Parts* an "untruth."[45] Thus in Symeon's works we can document close acquaintance with Galenic material, and in particular a notable attempt to occasionally challenge Galen's authority.

His *Refutation of Galen* belongs to the ancient genre of *antirrhēsis*, 'refutation', which was designed to contradict someone's view(s) as amplified in a special treatise or some sections of various works. The concept of refutation derives from the ancient Greek courtroom speech, in which an orator rejected the authority or opinion of a particular person, normally his legal opponent.[46] Quintilian (*Inst.* 5 pr. 1) calls the process of refuting the arguments of the adversary the main task of the orator. The concept became particularly prominent in the fields of philosophy, science, and medicine.[47] Aristotle informs

[43] *Syntagma* 106.15–19: θαυμάζω δὲ τὸν Γαληνὸν θαυμάζοντα τοὺς τὰς μεγάλας τρίγλας ὠνουμένους, ὡς τῶν μικρῶν ἡδυτέραν ἐχούσας τὴν σάρκα καὶ εὐπεπτοτέραν. εὐπεπτότεραι μὲν γὰρ αἱ μικρότεραι ἀληθῶς, ἡδύτεραι δ' οὐδαμῶς.

[44] Galen *On the Properties of Foodstuffs* 3.27 (VI 717.1–6 K. = G. Helmreich, *CMG* V.4.2 [Berlin 1923] 366.7–11 = John Wilkins, *Sur les facultés des aliments* [Paris 2013] 228.3-8).

[45] *Anecdota* II 119.21–120.5, on Galen III 241.1–242.8 K. = G. Helmreich, *Galeni de Usu partium libri XVII* I (Leipzig 1907) 176.21–177.23.

[46] For an introduction to the concept of *antirrhēsis* see Peter Goodrich, "Antirrhesis: Polemical Structures of Common Law Thought," in A. Sarat and T. Kearns (eds.), *Rhetoric and Law* (Ann Arbor 1994) 57–100.

[47] Monique Canto, "Politiques de la réfutation. Entre chien et loup: le philosophe et le sophiste," in B. Cassin (ed.), *Positions de la Sophistique* (Paris

us that rhetoric and dialectic have the common purpose of analysing and defending or attacking a statement (*Rhet.* 1354a1–6), and himself includes special sections in his works to counteract the views of earlier authors.[48] The genre was revived in the Second Sophistic with authors such as Plutarch (e.g. *Against Colotes*), Sextus Empiricus (*Against the Mathematicians*), Alexander of Aphrodisias, and Galen writing special works to contradict the views of other authorities or schools of thought.[49] In close proximity to the case under examination, Galen himself wrote *On the Natural Capacities* mainly to respond to and criticise Erasistratus, Asclepiades, and their contemporary followers' ideas on physiology.[50] Lastly, note that, although we do not have many particular cases of refutation in the fields of Byzantine philosophy and medicine, the genre became quite popular throughout the Byzantine period among Christian theologians, who devoted special works to condemning heretical views.[51]

Symeon's treatise focuses on refuting Galenic ideas on human physiology.[52] He refers mainly to Galen's *On the Natural*

1986) 27–51, provides a study of the concept of refutation in the field of Greek philosophy.

[48] See for example his refutation of Empedocles' theory of the soul: *De an.* 1.4–5.

[49] In particular, Alexander of Aphrodisias (fl. ca. 200) wrote an interesting refutation of Galen's theories on motion, which survives only in Arabic: Nicholas Rescher and Michael Marmura, *The Refutation by Alexander of Aphrodisias of Galen's Treatise on the Theory of Motion* (Islamabad 1965).

[50] See Mario Vegetti, "Historiographical Strategies in Galen's Physiology," in Philip van der Eijk (ed.), *Ancient Histories of Medicine: Essays in Medical Doxography and Historiography in Classical Antiquity* (Leiden 1999) 383–396, at 386–389.

[51] Notable examples are Eus. *Against Markellos*; Greg. Nys. *Against Eunomios*; Cyril of Alexandria *Against Julian the Apostate*; Niketas Byzantios *Against Muhammad*; George Akropolites *Against Latins*.

[52] Brief remarks on the text were made by Oswei Temkin, *Byzantine Medicine* 108–109, *Galenism* 118–119; Nutton, in *Material Culture* 175. A short, now outdated, article about the text, with some preliminary remarks, was written by Magnus Schmid, "Eine Galen-Kontroverse des Simeon Seth,"

Capacities and seems to be aware of two more Galenic treatises, *On the Function of the Parts* and *On Semen*.[53] I argue that Symeon's criticism of Galen's theories is not based on practical experience or scientific observations, but is rather highly rhetorical, inspired by a close reading of the Galenic material. For Symeon's goal is not to present himself as a follower of Aristotle or any other authority, but to impugn the prevalence of Galen's authority. The text clearly addresses a contemporary audience, Galen's Byzantine followers, who considered everything that Galen said absolutely infallible (11–12 ἀρτίως παρὰ πολλῶν δοξαζόμενον, 126 τῶν σῶν ὀπαδῶν).[54] Although we do not have independent evidence of any such group of contemporary intellectual physicians, something to which also Symeon alludes in his proem (14 ἐδέησέ μοι τοῖς σοῖς προσδιαλεχθῆναι ὀπαδοῖς, 20 καλῶς γὰρ προηροῦ τὸν θάνατον τοῦ μὴ μετὰ τοιούτων ζῆν), there were definitely practising physicians with an elementary knowledge of ancient Greek medical works, who showed a certain degree of admiration for the achievements of authors such as Hippocrates and Galen.[55]

Actes du XVII^e Congrès international d'histoire de la médecine (Athens 1960) I 491–495, Discussion II 123.

[53] It is important to note that there are no textual similarities between Symeon's text and the anonymous collection of exegetical scholia on Galen's *On the Natural Capacities*, which survives in late Byzantine and post-Byzantine manuscripts but is probably the product of a much earlier period; ed. Paul Moraux, "Unbekannte Galen-Scholien," *ZPE* 27 (1977) 1–63, at 9–57.

[54] See also *Peri Chreias tōn Ouraniōn Sōmatōn*, in Delatte, *Anecdota* II 119.25, where Symeon refers to those who considered anything Galen said to be "acceptable" (πολλοῖς εὐαπόδεκτον).

[55] See for example Michael Psellos' monody dedicated to the deceased brother, himself a physician, of a certain contemporary *aktouarios*: Ioannis Polemis, *Michael Psellus: Orationes Funebres* I (Berlin 2014) 194–198. Psellos praises the physician's knowledge of the theory of pulse and other branches of medicine, and also his ability to intone Hippocrates' works. This is an example of an educated physician with a basic background in the works of Hippocrates and Galen, but not of a physician with scholarly interests.

The treatise might have been written in Symeon's attempts to acquire popularity in Constantinopolitan literary circles, and if so it presumably belongs to the time before Alexios I's reign. Among Symeon's intended audience we should also include those who, having attended the lectures of the contemporary philosophers Michael Psellos and his student John Italos, had an exceptional knowledge of philosophy.[56] An elementary background in medicine could be acquired through Psellos' long didactic poem *De medicina*, which, although lacking in originality, provides the non-specialist with a basic introduction.[57] This does not confirm that intellectuals of the period had a particular interest in or were inquisitive about Galen's medical works, but they were certainly aware of his authority, which they probably praised.

Before I proceed to a presentation of Symeon's refutation point by point, it is important not to underestimate the potential influence of Islamic criticism of Galen by authors such as al-Rāzī (d. ca. 925), who wrote a treatise specifically called *Doubts about Galen* (*al-Shukūk 'ala Ǧālīnūs*), questioning various Galenic medical theories.[58] Later, there are even more striking

[56] On the revival of the study of philosophy in eleventh-century Byzantium see Anthony Kaldellis, *Hellenism in Byzantium* (Cambridge 2007) 191–224.

[57] L. G. Westerink, *Michaelis Pselli Poemata* (Leipzig 1992) 190-233. For a short study of Psellos' poem and its sources see Armin Hohlweg, "Medizinischer 'Enzyklopädismus' und das *ΠΟΝΗΜΑ ΙΑΤΡΙΚΟΝ* des Michael Psellos," *BZ* 81 (1988) 39–49. On the audience of the poem see Wolfram Hörandner, "The Byzantine Didactic Poem – A Neglected Literary Genre? A Survey with Special Reference to the Eleventh Century," in F. Bernard and K. Demoen (eds.), *Poetry and its Contexts in Eleventh-century Byzantium* (Farnham 2012) 55–67, at 61.

[58] For the reception of Galen by Islamic medical authors see Gotthard Strohmaier, "Die Rezeption und die Vermittlung: die Medizin in der byzantinischen und in der arabischen Welt," in M. Grmek (ed.), *Die Geschichte des medizinischen Denkens* (Munich 1996) 151–181. On al-Rāzī see Salomon Pines, "Razi critique de Galien," *Actes du VII^e Congrès International d'histoire des Sciences* (Paris 1953) 480–487; and Peter Pormann, "Qualifying and Quantifying Medical Uncertainty in 10th-century Baghdad: Abu Bakr al-Razi,"

analogies, in scholars such as Ibn Buṭlān (d. 1066) and Ibn Riḍwān (d. 1068), who debated the proper use of Galenic works, a controversy which started from a dispute about physiology.[59] Ibn Riḍwān was active in Cairo in the mid-eleventh century, while Ibn Buṭlān left his native Baghdad in 1048 and spent time in Cairo before arriving in Constantinople in 1053, finally settling in Antioch.[60] Although we cannot establish direct connections between these scholars and Symeon, it is noteworthy that Symeon travelled to Egypt and probably originated from Antioch.[61] However, in contrast to these authors, who contradict Galenic views in light of their medical observations, Seth's arguments remain in the theoretical arena.

In fact, in his prologue Symeon challenges Galen's reputed infallibility in light of his 'demonstrative methods' (17 μεθόδοις ἀποδεικτικαῖς). For Galen *apodeixis* has generally the sense of a logical demonstration, but in works dealing with anatomy and physiology such an argument might also include findings derived from animal dissection.[62] The latter is actually a *locus com-*

Journal of the Royal Society of Medicine 106 (2013) 370–372.

[59] See Joseph Schacht and Max Meyerhof, *The Medico-Philosophical Controversy between Ibn Butlan of Baghdad and Ibn Ridwan of Cairo* (Cairo 1937); and Jacques Grand'Henry, *Le livre de la méthode du médecin de ʿAli b. Ridwan (998–1067)* I (Louvain-la-Neuve 1979) 2–5.

[60] Ibn Buṭlān arrived in Constantinople during the Great Schism between East and West, and was asked by the Patriarch Michael Keroularios (1043–1059) to write a treatise on the controversy over the use of unleavened bread in the eucharist. On Ibn Buṭlān in Constantinople with references to primary sources see Joseph Schacht, "Ibn Buṭlān," in *Encyclopaedia of Islam*[2] (2002– : http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/ibn-butlan-SIM_3120, accessed 27 Jan. 2015); Strohmaier, *Rezeption* 171–172.

[61] The possibility that Symeon could have based his short treatise on a now lost or unedited work by Ibn Riḍwān should be noted. Among Ibn Riḍwān's works, according to his biography by Ibn Abi Usaybi'ah (d. 1270), were numerous commentaries on Galenic writings, although none deals explicitly with Galen's *On the Natural Capacities*: cf. Schacht and Meyerhof, *The Medico-Philosophical Controversy* 41–49.

[62] See *On the Natural Capacities* 3.8 (II 168.7–177.14 K. = G. Helmreich,

munis in Galen's own arguments against the Erasistrateans and Asclepiades, who in his *On the Natural Capacities* are both accused of not practising anatomy.[63] It is striking that Symeon proposes to refute Galen's ideas of physiology by employing the same demonstrative methods that Galen had used, but this does not seem to have any real effect in Symeon's case given that he never performed dissection. Symeon's statement is merely rhetorical, accompanied by a certain degree of irony. In fact, irony becomes a literary tool, meant to undermine the prestige of Galen's theories. A first manifestation of this is at lines 37–38 (τῶν τοιούτων ῥημάτων ψυχρότητος καὶ τὰ ἄρθρα φρίττουσι) where Symeon uses strong language to contradict one of Galen's ideas. At another level, Symeon very often accuses Galen of having a poor memory (83–84 καὶ πῶς ἐπελάθου, 102 ἐπελάθου οὖν ταῦτα). Interestingly enough, Galen himself uses the same motif when exposing the im-

Claudii Galeni Pergameni scripta minora III [Leipzig 1893] 222.19–229.22), where, although Galen's original argument set out to establish the attractive, alterative, and retentive capacity of the stomach (προὐθέμεθα μὲν οὖν ἀποδεῖξαι, 177.6–7), he then employs anatomical dissection (ἀνατομῆς ἐπιδείξωμεν, 175.6–7) to refute the Erasistratean theories on the construction of the tunics of the esophagus. See also *On Semen* 1.16 (IV 582.8–10 K. = P. de Lacy, *CMG* V.3.1 [Berlin 1992] 132.28–134.1), where he argues that he will demonstrate a certain theory by means of dissection (τοῖς ἀποδειχθεῖσί τε καὶ φαινομένοις ἐναργῶς ἐν ταῖς ἀνατομαῖς). In the case of anatomical demonstrations, Galen uses ἐπιδείκνυμι and its cognates such as ἐπίδειξις. For discussion of terminology concerning dissections in his argumentation see H. von Staden, "Anatomy as Rhetoric: Galen on Dissection and Persuasion," *JHM* 50 (1995) 47–66, at 53–55. For an informative introduction to Galen's notion of demonstration see G. E. R. Lloyd, "Theories and Practices of Demonstration in Galen," in M. Frede and G. Striker (eds.), *Rationality in Greek Thought* (Oxford 1996) 255–277. On Galen's anatomical demonstrations see Julius Rocca, *Galen on the Brain: Anatomical Knowledge and Physiological Speculation in the Second Century A.D.* (Leiden 2003) 50–58.

[63] E.g. 1.13 (II 32.13–33.2 K. = Helmreich, *Scripta minora* III 124.10–17), where Galen accuses Asclepiades of not having performed dissections and thus not being able to describe precisely the anatomy of the tunics of the urinary bladder.

preciseness of other physicians' views.[64] In another instance Symeon insists on Galen's fallibility, putting it in a Christian light by noting that no one is without "sin" (127–128 οὐδεὶς τῶν ἀνθρώπων ἀναμάρτητος).

There are in total seven areas in which Symeon disagrees with Galen's ideas; each of them may contain several points, all related to each other and focusing on a specific part of Galen's physiology such as conception or the movements of various gastrointestinal organs. He either cites verbatim passages or he paraphrases Galenic statements. They may be divided into two categories according to the nature of Symeon's criticisms: (a) he merely bases himself on Aristotelian views to contradict Galen's (§2), and (b) he finds contradictions of Galen's statements within his own corpus (§3, §4, §5), although these may sometimes arise from an exception to Galen's own ideas or as a result of Galen's insufficiently detailed clarification of certain parts of his theoretical statements (§6, §7, §8). Symeon's references to Galenic texts are identified below in the *apparatus fontium*.

In the first instance (§2.21–59) Symeon discusses the Galenic concept of the generation (γένεσις) of various bodily parts. According to Galen generation is an activity (ἐνέργεια) regulated by two capacities, the alterative (ἀλλοιωτική) and the shaping (διαπλαστική). The first is responsible for the production of the underlying substance (ὑποβεβλημένη οὐσία) of a particular bodily part, such as bone or nerve, while the latter gives it its final shape, including the formation of cavities (κοιλότητες), outgrowths (ἀποφύσεις), and attachments (συμφύσεις). Conversely Symeon considers that generation depends on a single capacity acting from the initial alteration up to the final shaping of the organs (38–43). He argues that it is not possible to define the limit of the alterative capacity and the beginning

[64] E.g. *On the Function of the Parts* 6.13 (III 475.6–7 K. = Helmreich, *De usu* I 346.17–18), where Galen, commenting on Asclepiades' theory of the pulmonary vessels in the fetus, accuses him of having forgotten to describe the nature of the vessels in the brain (ἐγκεφάλου μὲν γὰρ ἴσως […] διὰ τοῦτ' ἐπελάθετο).

of the shaping of some bodily part by means of anatomy (46–50) and thus he cannot understand why Galen considers there are two separate stages and refers vaguely to Aristotle (45–46). This is a consequence of the Aristotelian notion of change in the formation of the homoeomerous parts (ὁμοιομεροί) in which A is supposed to turn into B.[65] Galen's use of alteration is generally the same as Aristotle's in connection with a certain change in the form of movement (κίνησις).[66] On the other hand, Aristotle himself does not provide a detailed discussion of the formation of the various bodily structures and does not refer to shaping (διάπλασις). On the basis of Aristotelian theories Galen introduces the stage of shaping, itself another kind of alteration, in his attempt to provide a more detailed explanation of the ongoing alteration. Yet Symeon's criticism does not seem fair, since, for example, in the case of semen, Galen considers the formation of the thin membrane surrounding it the product of the shaping capacity, thus defining precisely the outcome of this stage.[67]

Next come two cases of Galen's theory on reproduction and conception (§3.60–68, §5.79–86). In both instances, Symeon reproduces Galen's theory in his *On the Natural Capacities*, referring to the menstrual blood as the source for the production of tunics of bodily parts such as the intestines and the arteries (60–64), which is in line with Aristotle's view (65–67).[68] However,

[65] Arist. *Gen.corr.* 319b, 334a; *Phys.* 191a6–7, 226a26–28. On alteration in Aristotle see G. E. R. Lloyd, *Aristotle: The Growth and Structure of his Thought* (Cambridge 1968) 171–173; and Sarah Broadie, "*On Generation and Corruption* I. 4: Distinguishing Alteration-Substantial Change, Elemental Change, and First Matter in *GC*," in F. de Haas and J. Mansfeld (eds.), *Aristotle: On Generation and Corruption, Book I* (Oxford 2004) 123–150.

[66] Galen *On the Natural Capacities* 1.2 (II 3.2–9 K. = Helmreich, *Scripta* III 102.13–20); cf. *On Affected Parts* 1.3 (VIII 32.6–8 K.). On alteration and shaping in Galen's physiology see R. J. Hankinson, "Philosophy of Nature," in *The Cambridge Companion to Galen* (Cambridge 2008) 210–241, at 224–225.

[67] *On the Natural Capacities* 2.3 (II 86.6–10 K. = *Scripta* III 163.16–20).

[68] On Aristotle's view on the role of semen in reproduction see Anthony Preus, "Science and Philosophy in Aristotle's *Generation of Animals*," *JHB* 3

this is in contrast with Galen's later view in his *On Semen* where he attributes the generation of all organs such as veins, arteries, bones, and parts of them to male semen alone (67–68), which uses the female seed as nutriment for its growth.[69] Later on (82–83), Symeon cites one more passage from Galen's *On the Natural Capacities*, which considers the menstrual blood as the sole material principle, and then paraphrases Galen's statements from his *On Semen* where he mentions that children may resemble either parent depending on the mixture of the seeds (84–86). In addition to his change of views, between the two works, on the role of blood, Galen seems confused in Book 2 of *On Semen* as regards the role of the female seed. Although he seems to consider that the menstrual fluid might at least make a partial contribution, as Aristotle had suggested, he then refers to the theory that the secretion found in the vagina might be female semen, while he also asks whether there might be a third kind of seed.[70] In fact, in *On Semen* Galen considers that both male semen and menstrual blood have a material principle.[71] Symeon's objection to the inconsistencies in Galen's theories between his works is not unreasonable, since Galen's views in *On the Natural Capacities* also contrast with his statement in his *On Mixtures*, where he does not clarify the particular contribution of blood as distinct from that of semen in the construction of vessels and other parts of the fetus.[72] It is notable

(1970) 1–52, at 10–15.

[69] Galen *On Semen* 1.5, 1.7, 1.10, 1.11 (IV 527.16–528.4, 531.7–8, 536.14–16, 546.16–547.1, 551.16–17 K. = de Lacy, *CMG* V.3.1 78.24–28, 82.12–13, 82.86.23–24, 98.1–3, 102.17–18). On Galenic theories of reproduction see Fortunato Cirenei, *La fisiologia di Galeno* (Genoa 1961) 53–60.

[70] *On Semen* 2.2–3 (IV 610.11–619.17 K. = de Lacy 162.1–171.27). On Galen's conception theory and the reception of Aristotelian notions see Anthony Preus, "Galen's Criticism of Aristotle's Conception Theory," *JHB* 10 (1977) 65–85, at 83–84; and Michael Boylan, "The Galenic and Hippocratic Challenges to Aristotle's Conception Theory," *JHB* 17 (1984) 83–112, at 100–103.

[71] *On Semen* 2.2 (IV 613.8–10, 614.5–8 K. = de Lacy 164.12–13, 24–26).

[72] *On Mixtures* 2.2 (I 577.17–578.10 K. = G. Helmreich, *Galenus De tem-*

that, although Symeon notices obscurities and contradictions within the Galenic corpus, he neither presents his own views nor employs Aristotelian ones, which are nonetheless used to stress Galen's inconsistency.

The case (§4.69–78) where Symeon discusses Galen's dispute with Asclepiades[73] regarding the tunics of the bladder is intriguing and shows the complementarity existing among various works of Galen. In the first instance Symeon refers to Galen's statement in *On Natural Capacities* where his anatomical description identifies two tunics, an inner and an outer, in contrast to Asclepiades, who considers the urinary bladder to have a single tunic (69–76). However, Symeon rebukes Galen because he asserts elsewhere that the urinary bladder had only one tunic; that is in fact the case twice in the Galenic corpus, in *On Natural Capacities* and again in *On the Function of the Parts*.[74] It is likely that in both passages Galen refers only to the inner tunic since, as he has clarified in *On Natural Capacities* and *On Anatomical Procedures*, the outer tunic is actually part of the peritoneum extending over the uterus and acting as a true tunic.[75] Thus, it seems here that Symeon has been misled by Galen's failure to define the bladder's outer tunic in a precise manner and probably had not consulted Galen's *On Anatomical Procedures*.[76]

peramentis [Leipzig 1904] 43.19–44.4). The notion that Galen was not consistent in his views is not substantiated by the dating of the works, since *On the Natural Capacities* was written after *On Mixtures* (cf. *On the Natural Capacities* 1.3 [II 9.5 K. = *Scripta* III 107.6–7) and before *On Semen*, that is, the latest work among these three (cf. *On Semen* 1.5 and 1.17 [IV 533.12 and 590.4 K. = de Lacy 84.10 and 140.24–25]).

[73] See n.95 below.

[74] *On the Natural Capacities* 3.11 (II 180.13–16 K. = *Scripta* III 232.1–4); *On the Function of the Parts* 14.14 (IV 205.4–6 K. = Helmreich, *Usu* II 332.22–25).

[75] *On the Natural Capacities* 1.13 (II 32.13–16 K. = *Scripta* III 124.10–15); *On Anatomical Procedures* 6.7 (II 568.10–17 K. = I. Garofalo, "Anatomicarum Administrationum libri," *AION(filol)* Quad. 4 [Naples 2000] 381.15–21).

[76] Cf. A. J. Brock, *Galen on the Natural Faculties* (Cambridge [Mass.] 1916)

The last group consists of three cases all dealing with digestion (§6.87–109, §7.110–115, §8.116–123). In the first Symeon presents Galen's theories on the movements of gastrointestinal organs such as the intestines and the esophagus. It is indeed true, as Symeon also states, that Galen admits that every bodily part that is nourished necessarily has four capacities (96): attraction (ἑλκτική), retention (καθεκτική), alteration (ἀλλοιωτική), and expulsion (ἀποκριτική).[77] Symeon rightly points out that Galen does not attribute an attractive capacity to the intestines (91–94). However, Galen himself in *On the Natural Capacities* provides a cross-reference to his *On the Function of the Parts*, where he clarifies that the intestines have no need of attraction.[78] In a similar vein, Symeon criticises Galen for attributing the ability to attract food to the esophagus but not to expel it (104–109), given that according to Galen's own theory, opposite movements should follow opposite capacities. For example, an eliminative capacity should be followed by an attractive one (100–102). Although Symeon is aware of Galen's *On the Function of the Parts*, he seems to conceal the subsidiary role that Galen attributes to the esophagus, i.e. as only a pas-

281 n.2. The issue of tunics in Galenic anatomy is often ambiguous. In a personal communication I had with Vivian Nutton, I was made aware that Vesalius (1514–1564), following Galen, talks of the difficulty of distinguishing the perineum from other tunics.

[77] *On Mixtures* 3.1 (I 654.4–10 K. = Helmreich, *Temperamentis* 91.1–7). At *On the Natural Capacities* 3.8–9 Galen provides a discussion of the four capacities in the stomach and spleen (II 177.9–178.6 K. = *Scripta* III 229.17–230.7). For a brief overview of Galen's theories on digestion see Cirenei, *Fisiologia* 29–37; Rudolf Siegel, *Galen's System of Physiology and Medicine* (Basel 1968) 126–132; Armelle Debru, "Physiology," in *Companion to Galen* 263–282, at 273–275.

[78] *On the Natural Capacities* 3.11 (II 182.1–4 K. = *Scripta* III.233.1–4). Cf. *On the Function of the Parts* 4.8 (III 282.10–11 K. = Helmreich, *Usu* I 207.2–3). The entire argument is based on the nature of the various kinds of fibres found in the organs. On the fibres of the stomach and intestines see the discussion by Margaret Tallmadge May, *Galen On the Usefulness of the Parts of the Body* (Ithaca 1968) 212 n.23.

sageway used by the stomach to draw in its food.[79]

In the case of nausea Symeon is once again unfair in judging Galen's theories: in not explicitly discussing the causes of nausea, although he does refer to the nausea caused by irritation of the stomach's tunic (113–115), Galen never excluded the possibility that it might be caused by the quality or quantity of food ingested (110–112). In fact, in his *On the Function of the Parts*, he clearly states that nausea could be the outcome of consuming acrid substances that inflated the stomach.[80]

In the final case, Symeon discusses the transmission of food from the stomach to the liver during the second stage of digestion and presents Galen's view that during long periods of fasting part of the food might be drawn back from the liver to the stomach (116–118).[81] Symeon then rightly points out that since the food is delivered back to the stomach through the veins, a certain amount of blood might be expectorated in cases of vomiting (118–121). However, Symeon presents this as if it would happen to anyone who vomited immediately after the second stage, while Galen, who never denied that something like that could happen, clearly referred to this "bringing up" of food as a rare case in special circumstances.

Conclusions

Symeon Seth was better known among his contemporaries as a professional astrologer than as a medical man; his knowledge of natural sciences is also demonstrated in two of his treatises. His competence in Arabic made him a capable translator, working under the aegis of Alexios I. His medical interests are

[79] *On the Function of the Parts* 4.8 (III 283.17–284.2 K. = Helmreich, *Usu* I 208.3–5).

[80] *On the Function of the Parts* 5.4 (III 352.2–10 K. = Helmreich, *Usu* I 258.1–10).

[81] For an overview of Galen's views on the three stages of human digestion see *On the Natural Capacities* 3.13 (II 200.6–202.17 K. = *Scripta* III 246.10–248.7), and *On Good and Bad Humours* 5 (VI 785–787 K. = ed. G. Helmreich, *Galeni De bonis malisque sucis* [Berlin 1923] 410–411).

confirmed by his dietary compilation, *Syntagma peri Trophōn Dynameōn*. Nevertheless, neither the *Syntagma* nor the *Refutation of Galen* confirms that he actively practised medicine. The *Refutation* may not include any innovative material, but it shows a strenuous attempt by Symeon to make an impact on his contemporaries. This relied not only on the nature of the text (refuting another author's ideas), but also on Symeon's specific choice of the author. With regard to medicine Galen had hitherto been an unchallenged authority in Byzantium, and in making such accusations against him Symeon must have expected a strong reaction from his contemporaries. Although we cannot specifically identify Symeon's audience, we can assume that it included intellectuals and physicians who appreciated Galen's authority. There is no evidence to suggest the existence of contemporary scholarship on medical texts, which is also corroborated by Symeon's failure to research his subject sufficiently. For example, in trying to explain what Galen says on the capacities of the intestines, he does not consult the whole Galenic corpus. The treatise is chiefly written to obtain some personal benefit, probably advancement in the imperial administration, and does not derive from Symeon's own special interest in Galen's works.

The fact that Symeon chose to write a treatise not on astronomy or some other field of the natural sciences but on medicine does not seem to be due to his choice of audience; instead it might be explained by similar critiques of Galen by Islamic scholars of which Symeon was probably aware. His careful selection of Galen's *On the Natural Capacities*, which itself was written to contest the views of other ancient scholars, shows a well-prepared plan. Symeon could sometimes be unfair in judging Galenic views, as in the case of the formation of certain tissues and organs. At other times it is Galen's failure to be sufficiently precise or to define something clearly—as in the discussion of the structure and function of several gastrointestinal organs—that gives him grounds to criticise the master.

Lastly it should be noted that, although Symeon is able to discover Galen's contradictions in the field of conception and

reproduction, he does not suggest any new theory or any notable revision of Galenic physiology. To judge from the poor manuscript tradition, the treatise did not have a long afterlife, confirming, on the one hand, the absence of contemporary scholars who could debate Symeon's ideas and, on the other, its low scholarly value which failed to inspire Byzantine intellectuals of later centuries such as John Zacharias Aktouarios or John Argyropoulos. Yet one might wonder why Symeon's other medical work, *Syntagma*, was so popular, being transmitted in several dozen manuscripts. I think it is due to its central role as a practical dietary manual, equally accessible to specialists and non-specialists alike, and the first of its kind in that it was a unique combination of traditional Greek and recently introduced oriental material.

In conclusion, the *Refutation of Galen* undoubtedly reflects two things: first, the popularity and unchallenged status of Galen's theories throughout the Byzantine period, and second, Symeon's strong ambition to compete with his contemporaries and to get their attention by any means he could.[82]

[82] I am most grateful to Sophia Xenophontos (University of Glasgow) for her collaboration in the critical edition and translation of the text, and also for her numerous suggestions on various drafts of this article. I wish to acknowledge a sincere debt to Dionysios Stathakopoulos and *GRBS*'s anonymous referees for helpful comments on earlier versions of this paper. I would also like to thank Georgi Parpulov, Ioannis Polemis, and Georgios Xenis for various suggestions on the critical edition. This paper was presented in a shorter version at the International Conference "Female Bodies and Female Practitioners in the Medical Traditions of the Late Antique Mediterranean World" (Berlin, October 2014), and I am thankful to Philip van der Eijk for inviting me, as well as to the audience for providing me with useful observations. Special thanks go to the editor, Kent J. Rigsby, for his care in publishing this study.

Sigla atque breviata

cod.	Baroccianus 224 (30v–31v),[83] ca. 1460–1471 (from watermarks[84] and note[85] in fol. viiiv)
Darem.	editio Darembergii, Lutetiae Parisiorum a. 1853
Dübner	eiusdem editionis Darembergii corrector
Gal.	Galeni De Naturalibus Facultatibus, editio Kühnii,[86] II.1-214, Lipsiae, a. 1821 = editio Helmreichii, III.101-257, Lipsiae, a. 1893
<aaa>	addenda videntur
(.)	littera illegibilis
(…)	litterae illegibiles
coni.	coniecit
corr.	correxit, -erunt
ins.	inseruit, -erunt
om.	omisit
BVX	Petros Bouras-Vallianatos et Sophia Xenophontos

[83] Eastern Mediterranean, paper, 217 x 293 mm, iii (last two front flyleaves foliated ii-iii) + 76 (foliated i–viii, 1–68) + iii (first two back flyleaves foliated 69–70), ff. i–viii: linn. 32 [147 x 205 mm], ff. 1–68: linn. 39 [143 x 211 mm]. Quires: 3 x 1 (flyleaves), 8 x 8 (f. 56), 2 x 6 (f. 68), 3 x 1 (flyleaves).

[84] Watermarks: (1) ff. i–16, 25–68: [identical with] G. Piccard, *Die Wasserzeichenkartei Piccard im Hauptstaatsarchiv Stuttgart* Findbuch III (Turm) (Stuttgart 1970) Abt. II, nr. 620 = III 55–56, Ravenna 1460; (2) ff. 17–24 [similar to] Findbuch XII (Blatt/Blume/Baum) (1982) Abt. I, nr. 84 = III 58, Salzburg 1445.

[85] Long, non-scribal, unpublished note in Venetian dialect concerning a graduation ceremony of medical students held in the church of San Giovanni in Bragora at Venice. The first part records the names of professors attending the ceremony, while the second offers a short description of the ceremony itself. At the very beginning of the text, we find the following reference, which provides a *terminus ante quem* for the production of the manuscript: "1471 diu primo auosto in Venesia." I thank Roberta Giubilini for her help with the drafting of this note.

[86] Readings ascribed to Kühn may include those of earlier editions, e.g. by René Chartier, *Hippocratis … et Claudii Galeni … opera* (Paris 1679).

Συμεὼν μαγίστρου καὶ φιλοσόφου τοῦ Σὴθ τοῦ Ἀντιοχέως ἀντιρρητικὸς πρὸς Γαληνόν

1. Πρὶν μὲν ὁμιλῆσαι, Γαληνέ, τοῖς θεῖόν τί σε χρῆμα λογιζομένοις, ὑπελάμβανον ὡς καὶ οἱ μετρίως μετασχόντες λογισμοῦ διακρίνουσιν, ὅσον τὸ διάφορον τοῦ προφορικοῦ σου λόγου καὶ τοῦ ἐνδιαθέτου ἐν πολλοῖς τῶν συγγραμμάτων σεαυτοῦ ἐναντιουμένου καὶ χρωμένου οἷς χρᾶσθαι ἀποτρέπεις τοὺς ἀντικειμένους σοι. Ἤλπιζον δ' ὡς ὁ καιρὸς συνεργήσει μοι ὥστε μὴ εἰς ἀντιλογίαν καὶ ἔριδας χωρεῖν τῷ δεδιέναι μήποτε ταυτόν τι σοι πάθω, ὁπηνίκα τῇ πολυλογίᾳ ἐχρήσω. Ἐπεὶ δέ σε ἀρτίως παρὰ πολλῶν δοξαζόμενον καὶ ἐπὶ γλώττης σχεδὸν πάντων κείμενον καὶ ἅπτωτον πάντῃ λογιζόμενον καὶ ὑπὲρ ἄνθρωπον εὐφημούμενον, ἐδέησέ μοι τοῖς σοῖς προσδιαλεχθῆναι ὀπαδοῖς, οὓς εἴπερ ἑώρακας, οὐκ ἂν ἐπ' αὐτοῖς εὐηρέστησας, ὥσπερ οὐδ' ἐγώ· καὶ παραγαγεῖν κεφάλαιά τινα τῶν σῶν συγγραμμάτων καὶ ἀνατρέψαι ταῦτα μεθόδοις ἀποδεικτικαῖς, αἷς ἄν, εἰ παρῆς, συνωμολόγεις. Εἴπερ φιλαλήθης ὑπάρχεις, ὡς σεαυτὸν ἐπαινεῖς, καὶ μὴ ἐπόμενος τῇ τῶν πολλῶν διαθέσει τε καὶ δόξῃ, καλῶς γὰρ προῃροῦ τὸν θάνατον τοῦ μὴ μετὰ τοιούτων ζῆν.

2. Καὶ πρῶτόν γέ σοι διαλέξομαι περὶ ὧν συνεγράψω ἐν ᾗ ὑπέσχου βίβλῳ διδάξαι τίνες εἰσὶν αἱ δυνάμεις καὶ πόσαι καὶ τίνες αὐτῶν αἱ ἐνέργειαι, ὧν ἔφης ἀδύνατον διαγνῶναι τὸν ἀριθμὸν τὸν μήπω τὴν ἀνατομὴν προησκηκότα, ὡς ἰσαρίθμων οὐσῶν τοῖς στοιχειώδεσι μορίοις. Εἶπας δὲ περὶ τῶν ἐνεργειῶν αὐτῶν ἃ κατὰ μέρος προσθήσω. Καὶ πρῶτον ἐπαπορήσω περὶ ὧν ἔφης, Γαληνέ, ὡς "ἡ <μὲν> γένεσις οὐχ

22–23 cf. Galen *Nat.Fac.* 1.2, II 6.15-6 K. ‖ 24–25 cf. *Nat.Fac.* 1.6, II 12.9-14 ‖ 27-36 *Nat.Fac.* 1.5, II 10.12-11.3

6 ἐνδιαθέτου corr. Ioannis Polemis: διαθέτου cod. ‖ 7 οἷς cod.: οὓς tacite corr. Darem. ‖ 8 τοὺς ἀντικειμένους cod.: τοῖς ἀντικειμένοις tacite corr. Darem. ‖ 10 δεδιέναι tacite corr. Darem.: δεδιέναι cod. ‖ 12 γλώττης corr. Darem.: γλώττη cod. | ἅπτωτον coni. Dübner: ἅπτεται corr. Darem.: ἅπταιτον cod. ‖ 14 προσδιαλεχθῆναι corr. Darem.: προδιαλεχθῆναι cod. | οὓς cod.: οἷς tacite corr. Darem. ‖ 17 εἰ παρῆς cod.: εἴπερ ἦς tacite corr. Darem. ‖ 23 αὐτῶν corr. BVX: αὐτῆς cod. ‖ 27 μὲν ins. BVX ex Gal.

ἁπλῆ τις ἐνέργεια τῆς φύσεως, ἀλλ' ἐξ' ἀλλοιώσεώς τε καὶ διαπλάσεώς ἐστι σύνθετος· ἵνα <μὲν> γὰρ ὁστοῦν γένηται καὶ νεῦρον καὶ φλὲψ καὶ τῶν ἄλλων ἕκαστον, ἀλλοιοῦσθαι χρὴ τὴν ὑποβεβλημένην οὐσίαν, ἐξ ἧς γίγνεται τὸ ζῷον· ἵνα δὲ καὶ σχῆμα τὸ δέον καὶ θέσιν καὶ κοιλότητάς τινας καὶ ἀποφύσεις καὶ συμφύσεις καὶ τἆλλα τὰ τοιαῦτα κτήσηται, διαπλάττεσθαι χρὴ τὴν ἀλλοιουμένην οὐσίαν, ἣν δὴ καὶ ὕλην τοῦ ζῴου καλῶν, ὡς τῆς νεὼς τὰ ξύλα καὶ τῆς εἰκόνος τὸν κηρόν, οὐκ ἄν ἁμάρτοις." Λέγω οὖν ὅτι διὰ τούτων τῶν λόγων πόρρω που τοῦ εἰκότος ἐκπέπτωκας· ὑπὸ γὰρ τῆς τῶν τοιούτων ῥημάτων ψυχρότητος καὶ τὰ ἄρθρα φρίττουσι· τίς γὰρ οὐκ οἶδεν ὡς τῇ γεννήσει εὐθὺς καὶ ἀλλοίωσις ἕπεται; Ὅτι δὲ ἄλλο μὲν ποιητικὸν παρεισάγεις τῆς ἀλλοιώσεως, ἕτερον δὲ τῆς διαπλάσεως, καὶ ὡς αὕτη μὲν δι' ἄλλης, ἐκείνη δὲ δι' ἑτέρας ἐπιτελεῖται δυνάμεως δοξάζεις, τῇ οἰκείᾳ δόξῃ ἀντιπίπτεις. Οἴδαμεν γὰρ ὡς πέρας τῆς ἀλλοιωτικῆς κινήσεώς ἐστι τὸ εἶδος ἐφ' ὃ καταντᾷ τὸ ἀλλοιούμενον· τοῦτο γὰρ καὶ Ἀριστοτέλης ἀποδείκνυσιν, ἐφ' ᾧ καὶ αὐχεῖς συγκαταλέγων σεαυτὸν τοῖς θιασώταις αὐτοῦ. Εἰ δὲ βουληθείημεν ὑπεραπολογήσασθαί σου, λέγεται ὡς τὸ εἶδος πέρας ἐστὶν ἀεὶ τῆς ἀλλοιωτικῆς, ἔδει πως τὸ ἀλλοιούμενον ὑπὸ ἕν εἶδος τελεῖν, ἀνοικείως ταῖς ἀποδεικτικαῖς μεθόδοις ἀπολογησοίμεθα. Δῆλον γὰρ ὡς πᾶν τὸ ἀλλοιούμενον δι' ἰδίου ποιητικοῦ ἀλλοιοῦται, ἢ δι' οἰκείας αὐτῷ δυνάμεως, μὴ πόρρωθεν ἴωμεν. Ἄτοπον δὲ τὸ φάσκειν πᾶν τὸ ἀλλοιούμενον δεῖσθαι δύο δυνάμεων, τῆς μὲν ἀλλοιούσης τοῦτο, τῆς δὲ διαπλαττούσης· ἴσμεν γὰρ ὡς ἓν τὸ κινοῦν, καὶ πρὸς ἕν, καὶ ὡς ἡ ἀλλοίωσις ὁδός τίς ἐστίν, ἡ δὲ διάπλασις τέλος, πρὸς ὃ τὸ κινοῦν ἐπείγεται· εἰ δ'εἴπης περὶ τοῦ σχήματος τὸν λόγον εἰρῆσθαι, οὐδ' οὕτω τὸ ἄτοπον ἐκφεύξῃ· οὐ γὰρ διὰ τοῦτο ἔφης τῇ γεννήσει εἶναι, εἰ καὶ ἕτερον ἔχει ἢ ποι-

29 μὲν ins. BVX ex Gal. | γένηται cod.: γίνηται tacite corr. Darem. || 31 γίγνεται corr. BVX ex Gal.: γίνεται cod. || 33 τἆλλα corr. BVX ex Gal.: τ' ἄλλα cod. || 37 εἰκότος tacite corr. Darem.: εἰκότως cod. || 41 αὕτη tacite corr. Darem.: αὐτὴ cod. || 51 αὐτῷ cod.: αὐτοῦ tacite corr. Darem. || 55 ὡς ἡ tacite corr. Darem.: ὡσεὶ cod. || 57 ἐκφεύξῃ tacite corr. Darem.: εὐφεύξῃ cod. || 58 τῇ γεννήσει corr. BVX: τὴν γέννησιν cod. || 58–59 ποιητικὸν corr. BVX: ποιητικὴν cod.

ητικόν εἰ βούλει, δύναμιν ἑτέραν.

3. Ἔφης δὲ προϊὼν ὡς καθ' ἑκάτερον τῶν χιτώνων τῆς τε γαστρὸς καὶ τοῦ στομάχου καὶ τῶν ἐντέρων καὶ τῶν ἀρτηριῶν ἰδία ἡ ἀλλοιωτικὴ δύναμις, ἡ ἐκ τοῦ παρὰ τῆς μητρὸς ἐπιμηνίου γεννήσασα τὸ μόριον, ὃ δὴ καὶ πάντῃ ἀσύνετον. Πῶς γὰρ ἡ δύναμις ἡ τὸ μόριον ἀπογεννήσασα παρέσται τούτῳ ἀεὶ ὑπουργοῦσα; Ἀλλὰ καὶ Ἀριστοτέλην ἐπεγγελάσας λέγοντα τὰ μόρια πάντα ἐκ τοῦ καταμηνίου ἀπογεννᾶσθαι, καὶ ἀποφηνάμενος ταῦτα ἐκ τοῦ σπέρματος μόνου γίνεσθαι, σεαυτῷ πάνυ ἐνταῦθα ἠναντίωσας.

4. Καὶ κατὰ Ἐρασιστράτου δὲ γράφων, ὡς διανοουμένου περὶ τῆς κύστεως, ὡς περὶ σπογγιᾶς τινος ἢ ἐρίου, ἀλλ' οὐ σώματος ἀκριβῶς πυκνοῦ καὶ στεγανοῦ δύο <χιτῶνας> ἰσχυροτάτους κεκτημένου, καὶ μετ' ὀλίγον τὸν ἔξωθεν λέγων χιτῶνα τῆς κύστεως ἀπὸ τοῦ περιτοναίου πεφυκότα τὴν αὐτὴν ἐκείνῳ φύσιν ἔχειν, τὸν δὲ ἔνδοθεν τὸν αὐτῆς τῆς κύστεως ἴδιον πλέον ἢ διπλάσιον ἐκείνου τὸ πάχος ὑπάρχειν, καὶ τὰ ἑξῆς, ἐν ἄλλοις μονοχίτωνα τὴν κύστιν ἀποφαίνῃ πολλάκις. Διὸ οὐ χρεία μοί ἐστι τοὺς σοὺς παρεισάγειν περὶ τούτου λόγους.

5. Καὶ μὴν πρὸς τῇ ἀρχῇ τοῦ δευτέρου λόγου οὑτωσὶ λέγεις: "ἠναγκάσθημεν οὖν πάλιν κἀνταῦθα, καθάπερ ἤδη πολλάκις ἔμπροσθεν, ἑλκτικήν τινα δύναμιν ὁμολογῆσαι κατὰ τὸ σπέρμα. <Τί δ' ἦν τὸ σπέρμα;> Ἡ ἀρχὴ τοῦ ζῴου δηλονότι ἡ δραστική· ἡ γὰρ ὑλικὴ τὸ καταμήνιόν ἐστιν." Καὶ πῶς ἐπελάθου, Γαληνέ, ὧν ἔφης περὶ τῆς μίξεως ἀμφοτέρων

60-64 cf. *Nat.Fac.* 1.6, II 13.15-14.1 ‖ 65-67 cf. *Sem.* 1.5, IV 529.15-16 ‖ 67-68 cf. *Sem.* 1.5, IV 528.3-4 ‖ 69-76 cf. *Nat.Fac.* 1.13, II 32.5-17 ‖ 76-77 cf. *Nat.Fac.* 3.11, II 180.13-16, *UP* 14.14, IV 205.4-6 ‖ 80-83 *Nat.Fac.* 2.3, II 85.7-11 ‖ 84-86 cf. *Sem.* 2.1, IV 603.2-4, 610.1-10

60 χιτώνων tacite corr. Darem.: χιτόνων cod. ‖ 65 : Ἀριστοτέλην corr. BVX: Ἀριστοτέλει corr. Dübner: ἀριστοτέλ cod. ‖ 66 λέγοντα corr. BVX: λέγοντι corr. Dübner: λέγεται cod. ‖ 70 ὡς περὶ corr. BVX ex Gal.: ὥσπερ cod. | ἐρίου cod.: ἀερίου tacite corr. Darem. ‖ 71 χιτῶνας ins. BVX ex Gal. ‖ 75 πάχος tacite corr. Darem.: πάθος cod. ‖ 82 Τί δ' ἦν τὸ σπέρμα; ins. Darem. ex Gal.

τῶν σπερμάτων, καὶ ὡς διὰ ταῦτα οἱ μὲν πατρόμοιοι, οἱ δὲ μητρόμοιοι μένουσιν;

6. Εἶτα προϊὼν γράφεις ὡς τῇ γαστρὶ καθάπερ τινὶ λέβητι περίκεινται πυρὸς ἐστίαι πολλαί, αἷς συγκαταρίθμησας τὸν σπλῆνα, καὶ μετὰ ταῦτα λέγεις ὡς "ἑκάστῳ τῶν κινουμένων ὀργάνων <ἐν τοῖς σώμασι> κατὰ τὰς τῶν ἰνῶν θέσεις αἱ κινήσεις εἰσίν." Εἶτα ἐπάγεις: "καὶ διὰ τοῦθ' ἑκάστῳ μὲν τῶν ἐντέρων στρογγύλαι καθ' ἑκάτερον τῶν χιτώνων αἱ ἶνές εἰσι· περιστέλλονται γὰρ μόνον, ἕλκουσι δὲ οὐδέν. ἡ δὲ γαστὴρ τῶν ἰνῶν τὰς μὲν εὐθείας ἔχει χάριν ὀλκῆς," καὶ τὰ ἐξῆς. Σὺ οὖν ἀεὶ φάσκων ὡς πᾶν τρεφόμενον μόριον δεῖται τῶν τεσσάρων δυνάμεων, ἐνταῦθα τὴν ἑλκτικὴν τῶν ἐντέρων ἀφαιρεῖς· πῶς οὖν αὔξει μὴ τρεφόμενα; ἀλλὰ καὶ ταῦτα σὺ εἶ ὁ λέγων: "Διὰ τοῦτο δὲ <καὶ> καταπίνειν ῥᾷόν ἐστιν ἢ ἐμεῖν, ὅτι καταπίνεται μὲν ἀμφοῖν τῆς γαστρὸς τῶν χιτώνων ἐνεργούντων, τοῦ μὲν ἐντὸς ἕλκοντος, τοῦ δ' ἐκτὸς περιστελλομένου τε καὶ συνεπωθοῦντος, ἐμεῖται δὲ θατέρου μόνου τοῦ ἔξωθεν ἐνεργοῦντος." Ἐπελάθου οὖν ταῦτα διεξιὼν ὧν ἀπεφήνω ὡς ἔνεστιν ἐκκριτικὴ δύναμις ἐν παντὶ ἑλκτικῷ· ἴσως δ' ἀπολογήσῃ ὡς μόνος ὁ οἰσοφάγος κατὰ μὲν τὸν χιτῶνα ἔχει τὴν ἑλκτικήν, κατὰ δὲ τὸν ἕτερον τὴν ἐκκριτικήν, καθὼς ἑξῆς λέγεις: "οὐ γὰρ δὴ μάτην γε <ἂν> ἡ φύσις ἐκ δυοῖν χιτώνων ἐναντίως ἀλλήλοις ἐχόντων ἀπειργάσατο τὸν οἰσοφάγον, εἰ μὴ καὶ διαφόρως ἑκάτερος αὐτῶν ἐνεργεῖν ἔμελλεν."

87-89 cf. *Nat.Fac*. 3.7, II 164.1-2 || 89-91 cf. *Nat.Fac*. 3.8, II 169.2-4 || 91-94 *Nat.Fac*. 3.8, II 169.8-11 || 95–96 cf. *Nat.Fac*. 3.12, II 182.10-12 || 98-102 *Nat.Fac*. 3.8, II 172.5-9 || 102-103 cf. *Nat.Fac*. 3.13, II 192.16-193.7 || 106-109 *Nat.Fac*. 3.8, II 175.1-4

|| 86 μένουσιν tacite corr. Darem.: μ(.)ν(…) cod. || 87 καθάπερ τινὶ corr. BVX ex Gal.: καθαπερεί τι tacite corr. Darem.: καθάπερ εἴ τι cod. || 88 πυρὸς corr. BVX ex Gal.: πρὸς cod. | ἐστίαι cod.: ἐστη corr. Darem. || 89 ἑκάστῳ corr. BVX ex Gal.: ἑκάστου cod. || 90 ἐν τοῖς σώμασι ins. BVX ex Gal. || 91 τοῦθ' corr. BVX ex Gal.: τοῦτο cod. || 92 στρογγύλαι corr. BVX ex Gal.: στρογγυλῶν cod. || 95 δεῖται corr. Darem.: δεῖξαι cod. || 97 τρεφόμενα tacite corr. Darem.: τρεφόμεν(…) cod. || 98 καὶ ins. BVX ex Gal. | ῥᾷόν corr. BVX ex Gal.: ῥᾷδιόν cod. || 104 ἀπολογήσῃ cod.: ἀπολογίσῃ tacite corr. Darem. || 106 ἂν ins. BVX ex Gal.

7. Εἶτα ἐπιφέρεις, ὡς ἡ ἔκκρισις γίνεται εἴτε διὰ τὸ τῇ ποιότητι δάκνον ἢ διὰ τὸ τῷ πλήθει διατεῖνον, καὶ ὡς τοῦτο δῆλον ἐν ταῖς ναυτίαις καὶ τοῖς πρὸς τὸ οὐρεῖν ἐρεθίσμασι. Ἆρα οὖν, Γαληνέ, δοξάζεις ὡς ἡ ναυτία γίνεται δι' αἴσθησιν τοῦ ἔξωθεν χιτῶνος, καὶ οὐ διὰ τὰ ἐμπεριεχόμενα τῇ γαστρί;

8. Εἶτα ἀποφαίνῃ μετὰ ταῦτα, ὡς δι' ὧν φλεβῶν εἰς τὸ ἧπαρ ἀνεδόθη ἡ τροφὴ ἐκ τῆς γαστρός, ἐνδέχεται αὖθις εἰς αὐτὴν ἐκ τοῦ ἥπατος ἕλκεσθαι ταύτην. Καὶ εἰ τοῦτο ἀληθές, λοιπὸν τὰ μέρη τῆς γαστρὸς τὰ δι' αἵματος τρεφόμενα δέχεται τὴν θρέψιν ἀφ' ὧν σιτίων πέττεται ἐν αὐτῇ, καὶ πάντας τοὺς ἐμοῦντας μετὰ τὴν δευτέραν πέψιν αἷμα ἐμεῖν. Καὶ μετ' οὐ πολὺ δὴ τὴν ἐκκριτικὴν λέγεις διὰ τῶν ἐγκαρσίων ἰνῶν γίνεσθαι, ἃς πρὸ ὀλίγου τῇ καθεκτικῇ ἀφώρισας.

9. Ἀλλ' ἐπειδὴ πᾶς σου λόγος πιστεύεται, λέγε ὃ βούλει· ἴσως δὲ διὰ τῶν πρὸς τοὺς σοὺς λόγους ἀντιρρήσεων ἐπιστρέψω τινὰς τῶν σῶν ὀπαδῶν οὐκ ἐπὶ δόξαν ἑτέραν, ἀλλ' ἵνα τούτοις ὑποδείξω ὡς οὐδεὶς τῶν ἀνθρώπων ἀναμάρτητος· μόνος γὰρ ὁ θεὸς ἀεὶ κατὰ τὸν αὐτὸν τρόπον ἐνεργεῖ τὸ ἀγαθόν.

110-112 cf. *Nat.Fac*. 3.12, II 183.8-10 || 113-115 cf. *Nat.Fac*. 3.12, II 185.1-5 || 116-118 cf. *Nat.Fac*. 3.13, II 188.4-6 || 121-123 cf. *Nat.Fac*. 3.13, II 194.4-6

120 σιτίων corr. BVX: μορίων cod. || 122 δὴ cod.: δὲ tacite corr. Darem. | ἰνῶν cod.: om. Darem. || 123 ἃς corr. BVX: οὓς cod. || 126 ἑτέραν tacite corr. Darem.: ἑτέρου cod.

The Refutation of Galen by the Magister and Philosopher Symeon Seth of Antioch

Proem: Symeon's opposition to Galen and his supporters

1. Before joining battle, Galen, with the people who consider you a divine creature,[87] I believe[88] that even those with mediocre intelligence can distinguish how much what you put forward differs from the thinking in many of your own writings, when you oppose and use whatever is useful in refuting your enemies. I hope that the circumstances will be favourable and that I will not enter into disagreements and conflicts,[89] because I fear lest I ever experience the same thing as you experienced whenever you employed your loquacity.[90] But since you are greatly extolled by many people and you[r words] are on almost everyone's lips, considered faultless in every respect and praised as superhuman, I feel the need to respond to your supporters, whom you would be displeased with, if you could see them, just as I am. I am thus obliged to set out some chapters from your writings, and overturn them with the help of demonstrative methods you would approve of, if you were still alive. If you are a genuine lover of truth, as you boast, and do not follow the disposition and the opinion of the crowd, then you rightly opted for death rather than live among such people.[91]

[87] Galen's medical theory dominated Byzantine medicine from its very inception, and in view of the impact of 'Galenism' the ancient physician was in a sense deified. Alexander of Tralles in the sixth century calls him θειότατος, "most divine," e.g. *Therapeutics* 5.5 (Puschmann II 203.23).

[88] Given that Symeon's refutation is performed as a lively interaction between himself and Galen, I have chosen to translate the imperfect in ὑπελάμβανον and ἤλπιζον below and the simple past in ἐδέησε as present tense. I follow the same principle for all other verbs in the past tense that denote speech, where the words are attributed to Galen (e.g. ἔφης throughout).

[89] This is a rhetorical *recusatio*, because Seth's oration leads him to a number of disagreements and conflicts with Galen.

[90] Galen is frequently concerned lest his readers accuse him of prolixity, e.g. *Differences of Pulses* 4.2 (VII 719.16–18 K.). John Zacharias Aktouarios, *On Urines* 3.25 (Ideler, *Physici* II 78.23–24), expresses a similar anxiety, most probably in imitation of Galen.

[91] Although Symeon recognises that Galen is dead (εἴπερ ἑώρακας, εἰ

Galen's theory of generation of bodily parts

2. As a start, I will talk to you about what you wrote in a book [viz. *On the Natural Capacities*], in which you promised to explain what sort of capacities and how many there are, and what their activities are. You say concerning the above that it is impossible to know the number [of the capacities] without having performed anatomical dissection, since the capacities are as many as the essential parts[92] [of the body]. I will comment section by section on what you have said about these activities. Firstly I will raise a doubt about what you say, Galen, i.e. that "generation is not a simple activity of nature, but compounded of alteration and of shaping; which means that in order that bone, nerve, veins, and each of the other parts may come into existence, the underlying substance from which the animal is created needs to be altered; and in order that the altered substance may acquire its appropriate shape and position, certain cavities, outgrowths,[93] attachments, and the like, it must be subjected to a

παρῆς, προῃροῦ τὸν θάνατον), he addresses him both in the proem and throughout as if he were present before him. This helps him to enliven his refutation and give it theatricality. The commander of the Byzantine fleet and *philiatros* (friend of medicine) Alexios Apokaukos (b. late thirteenth century–d. 1345) personally commissioned a vast volume of Hippocrates' works, *Paris.gr.* 2144 (fol. 10^{v}–11^{r}), in which he had himself depicted in dialogue with Hippocrates. In this case the scene becomes even more alive, with Hippocrates himself addressing Apokaukos; the text is in verse. This, however, is not a case of refutation, but of mutual admiration. See Joseph Munitiz, "Dedicating a Volume: Apokaukos and Hippocrates (Paris. gr. 2144)," in C. Constantinides et al. (eds.), *Φιλέλλην: Studies in Honour of Robert Browning* (Venice 1996) 267–280, an edition with translation and commentary.

[92] Symeon here refers to the *homoeomerous* parts of the body, 'having parts like each other', such as arteries, veins, nerves, and bones. Galen in *On the Doctrines of Hippocrates and Plato* 8.4 (VIII 674.8–14 K. = P. de Lacy, *CMG* V.4.1.2 [Berlin 1984] 500.21–26), includes also ligaments, membranes, and flesh. See also his description in *Differences of Diseases* 3 (VI 841.1–18 K.). Galen's work on the subject, *On the Differences of Homoeomerous Parts*, survives in Arabic: G. Strohmaier, *Galeni De partium homoeomerium differentia* (Berlin 1970).

[93] The term may refer to a projection of a bone or a branch of a nerve: LSJ s.v. ἀπόφυσις A.II.

shaping process, which one would justifiably call the material of the animal, just as wood is the material of a ship, and wax the material of an image." On account of these words I therefore claim that you have gone far astray; one's very limbs tremble at the ineptitude of such words! For who does not know that generation is immediately followed by alteration? But by introducing a cause that produces alteration and a different one that causes shaping, and claiming that the latter operates through one capacity, and the former through another, you contradict your own opinion. For we know that the limit of the alterative movement is the form in which the altered part ends up. This has already been demonstrated by Aristotle, among whose admirers you boast that you belong.[94] If we wanted to speak in defence of what you say, i.e. that it is commonly held that the form is always the limit of the alterative capacity, and the altered [part] should always belong to one form, we would be advancing an opinion contrary to the principles of the demonstrative methods. For it is obvious that everything that is altered is changed due to its own cause or due to its own capacity, to say the least. It is equally absurd to claim that everything that is altered needs two capacities, one that alters it, and another that shapes it. We know that there is just one movement and it is directed only towards one part and that alteration is a sort of path and the shaping is the end towards which the moving part is hastening. If you intend to speak about the shape, you will not escape absurdity by doing so; for you did not convince us in this respect that generation encompasses another capacity, even though this might have a different effect, or a formative one if you wish.

The role of menstrual blood versus semen

3. As you continue, you say that the alterative capacity is common to each of the tunics of the belly, the stomach, the intestines, and the arteries, and this produces the relevant part of the body from menstrual blood of the mother; that is totally unintelligible. For how can the capacity that produces the part remain forever subservient to it? But you also smile upon Aristotle, who claimed that all parts are gen-

[94] For an overview of the reception of Aristotle by Galen see P. van der Eijk, "'Aristotle! What a thing for you to say!' Galen's Engagement with Aristotle and Aristotelians," in C. Gill et al. (eds.), *Galen and the World of Knowledge* (Cambridge 2009) 261–281.

erated from the menstrual blood, and [yet] by affirming that these come into existence through the semen alone, you seriously contradict yourself on this point.

Galen on the urinary bladder and its tunics

4. And you write against Erasistratus,[95] who perceived the bladder as a sort of sponge or piece of wool, but not as a perfectly solid and impervious body comprising two very strong tunics; by saying just below that the outer tunic of the bladder which comes out of the peritoneum has the same nature as the peritoneum, whereas the inner tunic of the bladder has more than double the width in relation to the outer, and so forth, you many times declare, among other things, that the bladder has a single tunic. For this reason I do not need to introduce your theories on this topic.

Galen's theory on conception and embryos

5. However, towards the beginning of the second book [of *On the Natural Capacities*] you write as follows: "Here then, again, in the case of the semen, as has happened already many times in the past, we have been compelled to admit that there is some kind of attractive capacity. <And what is the semen?> Clearly the active principle of the animal; for the material principle is the menstrual flow." And how could you possibly forget, Galen, what you said about the mixture of both seeds, and that in view of these things some children resemble their father and others their mother?

Movements of gastrointestinal organs

6. As you proceed even further, you write that the stomach, just like a cauldron, is surrounded by many burning hearths, among which you include the spleen, and after that you say that "the movements of each of the moving organs <in the body> depend on the setting of the fibres." Then you say: "This is why the fibres throughout the in-

[95] Galen clearly refers to Asclepiades and not to Erasistratus in relation to the urinary bladder, and the original does not provide any variant readings to support Symeon's change of name: *On the Natural Capacities* 1.13 (II 31.8 ff. K. = *Scripta* III 123.13 ff.). Perhaps, it is due to an erroneous reading of an otherwise lost manuscript that Symeon consulted. On the medical theories of Asclepiades see John Vallance, "The Medical System of Asclepiades of Bithynia," *ANRW* II.37.1 (1993) 693–727.

testines are circular in both tunics; they only contract peristaltically,[96] but they do not exercise traction. The stomach, on the contrary, has some longitudinal fibres for the purpose of traction," and so forth. You always say that every single part that is nourished needs four capacities, yet here you exclude the attractive capacity of the intestines. How is it possible for them to grow if they are not nourished? But you are the one who says: "And for this reason it is easier to swallow than to vomit, for deglutition results from both tunics of the stomach being brought into action, the inner one attracting and the external one helping via peristalsis and propulsion, whereas vomiting occurs as a result of the external tunic alone functioning." You overlooked these points when you were expounding the opinion that there is secretive capacity in everything that exerts attraction. You may perhaps allege that it is only the esophagus that activates the attractive capacity towards the one tunic and the secretive capacity towards the other tunic, as you say afterwards: "For it not by chance that nature constructed the esophagus of two tunics with contrary dispositions, since each of them is meant to have a different action."

Gastrointestinal secretion

7. Then you assert that the secretion occurs either because of the nature of an irritant or because of the extent of distention; and that this is obvious in cases of nausea and urinary affections. Do you therefore believe, Galen, that nausea occurs through irritation in the external tunic and not due to the contents of the stomach?

The delivery of food in the second digestion

8. Afterwards, you say that food is delivered from the stomach to the liver through the veins, but it is possible that food may be attracted to the stomach from the liver. If this is true, it follows that the parts of the stomach nourished with blood are nourished from the foods that are digested within it, and anyone who vomits, vomits blood after the second digestion. After a short while, you say that the secretive capacity occurs through the transverse fibres, which you had just rejected in light of their retentive capacity.

[96] The term comes from περιστολή and signifies the particular movement of the stomach and the intestines by which their contents are propelled: LSJ s.v. A.2, and Brock, *Galen on the Natural Faculties* 263 n.2.

Conclusion: the underscoring of Galen's fallibility

9. But since every single word of yours is believed, say whatever you wish. Through the refutation of your theories I may not convert some of your supporters to another way of thinking, but I can show them that no human being is infallible. For it is only God who in his own fashion always provides that blessing.

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